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A highly nervous man too in such circumstances may stammer, and also sway in walking when under examination at the police station, or, a more difficult trap for the unwary, he may be the subject of slight ataxy from various causes, such as early tabes or combined sclerosis, cerebellar ataxy, or even aural vertigo.

The presence of definite nystagmus, especially if in one direction only, will indicate a lesion of the cerebellar system, but beware of diagnosing nystagmus from slight quick irregular movements of the eyes at the commencement of lateral deviation, especially in a nervous individual. Remember, too, that spontaneous nystagmus in all positions may be of congenital origin, such as albinism.

Conjugate deviation of the eyes may be either irritative or paralytic in origin. It is a common teaching that the eyes are turned towards the lesion in the brain in apoplexy, that is to say, that there is paralysis of the conjugate movement towards the opposite side, with unopposed action of the similar movement away from the sound side towards the side of the lesion. Deviation of the eyes may, however, be irritative from the lesion, and slight rigidity or even convulsions may be seen on the side that will be ultimately paralysed, and in this case the conjugate deviation of the eyes will be towards the sound side of the brain and away from the lesion, during the stage of cerebral irritation, ultimately swinging back towards the side of the brain lesion. Thus, in the early stages it is quite possible to diagnose the lesion on the wrong side of the brain.

The pupil reactions to light are a frequent source of error. Often they are said not to react when they are really normal, the test being carried out in a moderate or brightly lit room, with insufficient precautions. Beware of the small pocket torch as a test. Either a strong torch or electric light, or a bright window light should be used, both eyes being properly shielded for a few seconds before testing. Repeat the test, exposing each eye separately. Very small pupils will suggest opium poisoning, pontine hæmorrhage, or the Argyll Robertson pupils of tabes. Unequal pupils will suggest a gross cerebral lesion, such as cerebral contusion or hæmorrhage, but the Argyll Robertson pupils of tabes or G.P.I. are often unequal.

To return to our unconscious patient, now in bed. An X ray of the skull is important if the possibility of fracture has to be considered. This can be very efficiently done at the patient's house nowadays by portable apparatus of a special outfit driven by the car engine.

Depressed fracture, either in children or adults, is most important to recognise, though it may not be palpable as such, possibly only a lump being felt. The signs of cerebral injury, however, an irregular or slow pulse, slow or Cheyne-Stokes' breathing, unequal pupils, or squint, should indicate a graver type of cerebral injury than mere concussion, and pointing to either severe contusion, laceration, or compression from fracture or hæmorrhage. If, then, there is a definite lump or gross irregularity of the skull, it will be advisable not to wait for an X ray, but to proceed at once to shave and sterilise the area of scalp concerned, and to cut down upon the bone to make certain of its condition, when a depression may be often quickly dealt with and a life perhaps saved.

* A post-graduate lecture given at St. Mary's Hospital Medical School on Sept. 29th, 1933.

Concussion may be followed by recovery of consciousness, and later may be followed by delirium, increasing drowsiness, and coma. This condition indicates the onset of cerebral œdema as a sequel of contusion of the brain and of numerous minute hæmorrhages, possibly even laceration of the brain in more severe injuries. Lumbar puncture will almost certainly show yellow staining from altered blood, or even the cerebro-spinal fluid may be mixed with fresh blood, the pressure of the fluid being high and registering 200–300 on the manometer. This is a very important stage to recognise, as the patient will almost surely die if left alone. A decompression operation must be done at once, a large bone flap being raised, so as to allow of expansion of the œdematous brain. There may be no localising sign or indication on which side to operate, in which case a right subtemporal decompression should be done. In a few cases the cause of the cerebral compression will be found to be an extradural hæmorrhage from a torn middle meningeal artery, but then there is almost always some local indication on which side to operate.

Lumbar puncture, too, may settle the question of cerebral hæmorrhage, the fluid being intimately mixed with blood. The inexpert may in such a case mistake the mixed blood and fluid for blood from a punctured vein, and be unaware that his needle has correctly pierced the spinal theca. More accurate information can be obtained by using a special spinal needle with manometer attached to read the pressure. If the fluid rushes up the tube past the normal 140 or 150 mm. mark to 250 or more, then severe intracranial pressure is evident. Beware then of withdrawing more than the minimum of blood-stained fluid, as fall of pressure might start fresh cerebral hæmorrhage.

Examination of the optic discs should be done as soon as convenient, as clues to the condition may be found in retinal hæmorrhages, large or small, albuminuric retinitis, or the choked discs of cerebral tumour. In the latter condition immediate benefit may result from dehydration by intravenous injection of 3 oz. of 15 per cent. salt solution, or, if that method is not possible, the rectal injection of 8 oz. of a 25 per cent. solution of magnesium sulphate.

Coma

The causes of coma are too numerous for us to examine them all. In epileptic coma the patient lies flaccid with dilated pupils and stertorous breathing, somewhat livid in colour, no conjunctival reflex, the tongue possibly bitten, with blood around the lips, and evidence of relaxed sphincters. After two or three minutes in this state he may quickly recover, or may go off into a heavy sleep for three or four hours.

Narcolepsy.—Deep sleep resembling coma may be due to narcolepsy, a curious condition in which an uncontrollable desire to sleep recurs at irregular intervals. Subjects of this disease also are liable to sudden falls, without loss of consciousness, cataplectic attacks, which must be distinguished from petit mal. These attacks are brought on especially by the emotion of laughter, the legs giving way suddenly. Indeed, they remind us of the well-known saying of being "helpless from laughing." Bromide and luminal are of no use in this disease, but ephedrin may be tried. Similar overpowering sleep may be met with in acromegaly, and in other lesions near the pituitary infundibulum and floor of the third ventricle, an area of the brain which is especially associated with the phenomena of sleep. This association is also seen in encephalitis lethargica, in which the vascular lesions are particularly prone to affect this neighbourhood.

Coma may, of course, be due to many other poisons than alcohol. Nowadays the barbiturates, as medinal, or veronal, and luminal are commonly taken in attempted suicide. Opium and morphine poisoning are less common since the Dangerous Drugs Act, except in medical men. If no signs of corrosion around the mouth and lips are evident, in the absence of signs of cerebral injury or hæmorrhage, or causes already discussed, washing out the stomach should be resorted to as soon as possible, using weak permanganate solution, if obtainable. Strong coffee should then be inserted through the tube, and hypodermic injections of ether, coramine, and camphor in oil.

The breath of a comatose patient may suggest alcoholism, or the heavy urinous odour of uræmia, or the sweetish odour of acetonæmia in diabetic coma. For uræmia, rectal injection of 25 per cent. magnesium sulphate solution, and venesection of 15 oz. should be done, followed by the slow injection of half a pint of normal saline, followed by a smart purge.

In diabetic coma the immediate hypodermic injection of 30 units of insulin may restore consciousness, when a piece of cane sugar should be given, and blood-sugar estimations made. It must not be forgotten that coma may ensue in a diabetic patient due to hypoglycæmia, from excessive insulin dosage, especially if this is given shortly before heavy exertion, as a game of cricket or football. This condition is usually preceded by irregular twitchings of the limbs. The blood-sugar is then much below normal, and the immediate intravenous injection of 20 c.cm. of 30 per cent. glucose solution should be administered, or failing that, rectal injection of 4 oz. of 30 per cent. glucose.

Hypoglycæmia may even occur without insulin treatment in cases of pancreatic tumour involving the Islands of Langerhans. These have been successfully removed by operation.

Recurrent Convulsions

Recurrent convulsions may be due to gross cerebral injury, such as cerebral hæmorrhage, cerebral tumour or abscess, or depressed fracture, with or without meningeal hæmorrhage. Uræmia and puerperal convulsions are due to toxæmia from renal inefficiency, and if the fits are numerous they should be stopped by a hypodermic injection of morphia, or cardiac failure may ensue. Recurrent convulsions in epilepsy, known as status epilepticus, may also endanger life from heart failure, and are best arrested by a rectal injection of grs. 20 of choral hydrate with 40 of bromide, in 2 oz. of water. Inhalations of chloroform will also act quickly, though you are more likely to be blamed should the patient die while it is being administered. The recurrent slighter and unilateral convulsions in cerebral tumour or other localised lesions of the cerebral cortex are known as Jacksonian epilepsy, or as Jackson himself named them, epileptiform fits. They also are quickly arrested as a rule by a rectal injection of chloral and bromide, or, if the patient retains consciousness, as is often the case, the dose may be administered by the mouth. Three grains of sodium-luminal, the soluble salt of luminal, may be given instead, or it may be given intravenously, if a very speedy effect is desired.

Headache

Headache is one of the commonest symptoms calling for treatment, and its various causes are almost

infinite in number. Yet, before administering aspirin, phenacetin, bromide, antikamnia, phenazone, or any of this range of painkillers, some rough attempt should be made to locate the cause. If it is one of a long series of headaches that have recurred at intervals for years, it is probably a case of migraine, especially if the headache is preceded by visual spectra of the well-known scintillating scotoma or fortification type, or the visual interference may be the sudden onset of hemianopia which will last perhaps 20 minutes. I have known the case of a hospital nurse who, when first attacked with this visual disturbance went to look at herself in a mirror, and being able to see only one half of her face became so frightened that she went off into hysterical convulsions. No headache is present in this prodromal stage, but after half an hour or so it may rapidly become violent and almost unbearable. An injection of 10 minims of 1 in 1000 adrenaline solution is sometimes very efficacious, but the ordinary headache remedies taken by the mouth are often useless, more particularly if vomiting starts early, as no remedy taken by the mouth can be retained. A hypodermic injection of grs. 3 of sodium luminal may then be given if the adrenaline has failed. In those cases in which vomiting does not start early, a cachet of grs. 7 of pyramidon with grs. 3 of cannabin tannate, grs. 1½ of sodium luminal and gr. ⅛th heroin is a useful combination to control the severity of the pain, sometimes aborting it within an hour in cases which otherwise are likely to continue for 12 hours or more. A heaped teaspoonful of effervescing litmopyrin (Bishop's) in a small wine-glassful of water taken immediately after the cachet is a useful addition.

Recurrent violent unilateral headaches may be due to other causes than migraine. One of the commonest and most important to recognise is sinus infection of the frontal sinus or of the antrum. Pain starting over the eyebrow about 10 or 11 A.M. and lasting until the late afternoon, day after day, is very suggestive of this cause, and the pain, especially in frontal sinusitis, may be so violent as to be almost unbearable. A small pledget of cotton-wool soaked in 20 per cent. cocaine solution should be gently inserted and pressed against the lateral wall of the upper nasal cavity. This may arrest the pain almost like magic, and it acts by constricting the turgid mucous membrane and allowing drainage to take place from the sinus into the nose, thus relieving pressure. Do not forget the serious danger of a chloroform anæsthetic soon after using cocaine, as many deaths have been thus caused. Transillumination of the sinuses with a small but strong electric light in a darkened room will usually demonstrate a marked difference between a normal and an infected sinus or antrum, and the technique is so simple that every one of us should be familiar witlf it, and it should be used in every case of constant or recurrent headaches. X ray pictures of the sinuses should also be taken when in doubt, and transillumination cannot reach the ethmoidal and sphenoidal sinuses.

Another form of recurrent unilateral violent pain in the eye and eyebrow is not associated with sinus infection, but may be a form of migrainous neuralgia. When limited to the region of the eyeball, I speak of it as *ciliary neuralgia*. The violence of the pain may be so intense as almost to drive sufferers to suicide, the pain lasting for one to two days, and recurring every few days for a period of weeks, and then perhaps disappearing for several months. Nasal douching with cocaine solution should be tried, as already described, and I have had several cases which have been completely cured by alcohol injection of the Gasserian ganglion. This type of neuralgia is quite different from that of the paroxysmal tic of *trigeminal neuralgia*. In the latter the paroxysms of pain last only for half a minute or so, but may recur every two or three minutes. I saw one such case a few weeks ago in August which had been sent home to me from Burma, who had had such violent shocks of facial pain on the right side every two minutes with very little sleep, since the beginning of June. Alcohol injection of the Gasserian ganglion arrested the pain instantly, but I cannot recommend this treatment to you for your own use in practice, as it is a very delicate method and requires long training to acquire the necessary dexterity.

Headache is likely to be a prominent symptom in the early stage of *meningitis*. There is probably some fever, and possibly delirium, and at first you may be doubtful of early typhoid. In the latter the abdominal reflexes are often absent and the typical rash may be seen, but do not be put off the diagnosis because the Widal serum reaction is negative during the first eight days. The spleen, too, may be palpable and there is no head retraction, no rigidity of the neck muscles, or Kernig's sign, as are likely in meningitis. The pupils in the latter may be conclusive, sluggish, perhaps unequal, and dilated, with an irregular pulse and vomiting. Lumbar puncture should be done, and the pressure noted on the manometer, if you have the necessary apparatus. The pressure is likely to be raised far above the usual 140 mm. Note if the fluid is clear or turbid. If clear, it may be a case of tuberculous meningitis, and examination of the fluid by a pathologist may demonstrate TB bacilli in the spider web clot after standing, and the fluid is likely to contain diminished chlorides and a large excess of lymphocytes. Somewhat similar symptoms may occur in serous meningitis, but TB bacilli and lymphocytes are then absent and rapid cure is likely to occur after the withdrawal of 20–30 c.cm. of cerebro-spinal fluid. If the fluid withdrawn is turbid the meningitis is likely to be of the cerebro-spinal type due to the meningococcus, or it may be pneumococcal or even streptococcal. Stained films will distinguish between these forms, but in each case repeated daily lumbar puncture should be done, with the withdrawal of as much fluid as will flow readily, and then give an intrathecal injection of 20 c.cm. of antimeningococcus serum. If the meningitis is secondary to mastoid disease, or following an operation on the nasal cavities, or fractured base, or cellulitis, then it is usually due to streptococcus infection, and the chances of saving your patient are very slight, though the cerebro-spinal fluid should be drained by repeated lumbar puncture, twice daily, and hexamine administered by the mouth in grs. 20 doses t.d.s. in a tumblerful of water. Antistreptococcus serum is of probably doubtful value, though it may be tried.

Headache in *cerebral tumour* may be intense, calling for urgent relief. Lumbar puncture here is dangerous, because of the great risk of the increased pressure in the ventricles forcing the medulla and pons into the foramen magnum, with a fatal result. Morphia also is dangerous if there are signs of commencing torpor, but aspirin and phenacetin may be used safely. Certain relief may be obtained by puncturing the lateral ventricles, but this is an expert surgical procedure, and gives only temporary relief, unless followed by an extensive decompression.

Pyrexia of 101°–103° F. with cerebral symptoms of headache, torpor, and even delirium and coma may be the initial stage of an acute *poliomyelitis*, so that it is important to watch the muscular tonus of the limbs for the onset of a flaccid palsy. The deep reflexes will

probably be lost, but sensation is unimpaired. The paralysis may spread widely during four or five days, though the ultimate permanent paralysis and muscular atrophy is usually much less in extent that is present in the first week. In young children there is often little or no pain, and in some cases the sudden onset of paralysis of a limb is the first symptom. In young children, too, scurvy rickets may simulate acute poliomyelitis on account of the muscular weakness, and I have known of a case in which the practitioner cured his little patient with potato and fresh milk after a leading neurologist had diagnosed infantile paralysis. Thus may too narrow a specialism defeat itself. Unfortunately little can be done either to avert poliomyelitis or to arrest the development of the spinal lesions and the subsequent muscular paralysis. Serum from a previous sufferer from the disease has been tried many times, apparently without any good effect. During an epidemic of the disease it will be wise to advise all communities, such as school-children, to have the throat and nose sprayed daily with a mild antiseptic. Acute poliomyelitis occasionally attacks adults, and it is then often an extremely painful disease for the first few days, usually being mistaken for neuritis, malaria, dengue, or influenza.

During epidemics of poliomyelitis there is often seen an increase in the number of cases of *herpes zoster*. This is probably also due to a filter-passer virus, and it has a special relationship to the virus of varicella, innumerable cases of apparent infection of the one disease from the other being recorded. When zoster attacks the trunk, the onset of unilateral pain should give the clue, and it is wise to warn the patient that presently an eruption in the region of the pain is likely to occur, lest the rash when it appears is attributed to the treatment, and a change of doctor called for. Zoster is especially liable to affect the ophthalmic branch of the trigeminal nerve, and the pain may be agonising. If the vesicles attack the cornea, severe scarring, perforation, and blindness may result, or iritis and even optic neuritis are met with. An ointment of zinc cream containing cocaine and chloral hydrate should be used for the painful rash, and then dusted over with boric powder and starch. Morphia may be necessary to give rest and sleep in severe cases, though this should not be continued for more than a few days owing to the danger of formation of an addiction habit. In old people *post-herpetic neuralgia* is exceedingly common and is very difficult to treat. Morphia should be avoided and reliance placed on milder sedatives such as bromide, and hypnotics, including allonal, adalin, and many others of this type, changing the drug every week. Operative treatment is useless, and alcohol injection is also as a rule useless in the spinal cases, though occasionally Gasserian injection is helpful in the trigeminal cases, when in addition to the pain there is troublesome hyperæsthesia.

Facial Neuralgia

Facial neuralgia of the extremely violent paroxysmal type known as trigeminal neuralgia, or tic douloureux, I have already referred to. Before making this diagnosis, do not forget to examine for a carious tooth or even an erupting wisdom in a young adult. Impacted molars also may be a source of intense facial pain somewhat resembling trigeminal neuralgia, though less sudden and paroxysmal in type. Occasionally the pain in paroxysmal tic is so violent and recurs so frequently, that until expert help by alcohol injection of the Gasserian ganglion, or surgical resection of the posterior sensory root can be undertaken, something must be attempted to relieve the agony which otherwise may, and often did in the past, drive the sufferer to suicide. Morphia injections, if necessary, combined with scopolamine, will undoubtedly bring temporary relief, but this remedy should only be used in extreme urgency, if other remedies fail, as there is a very real danger of a morphine habit being formed in such cases. Quite a useful treatment to mitigate the severity of the pain is the inhalation of trichlorethylene, glass capsules of which, containing 10 minims, encased in cotton-wool, can be carried by the patient and broken for inhalation when required, just as the well-known ampoules of amyl nitrite in anginal cases.

Probably you will not have this drug with you on the first occasion you have to deal with these violent painful spasms, but very likely you carry an ethyl chloride spray, which may be sprayed on to cotton-wool or a handkerchief and inhaled. This is preferable to a morphine injection in its rapidity of action, but its effect is less lasting. Of course, you will not leave any quantity of this drug in the patient's hands.

Vertigo

Vertigo may be so sudden and violent in onset that your help will be urgently required. It may be either objective or subjective in character. In the former variety external objects appear as if they were moving, such as the pictures swinging on the wall, or the floor appears to rise up and hit you. This movement of objects is due to a forced movement of the eyes, and is an indication of sudden interference with the cerebellar system. If the objects continue to swing, this is due to the nystagmus set up by the irritant process, usually of labyrinthine origin, such as otosclerosis. As a rule, chronic deafness in one or both ears, with tinnitus, have been complained of for some time, but even the pressure of a loose plug of cerumen on the tympanum may produce troublesome vertigo of this sort. Occasionally such labyrinthine vertigo precedes the onset of any noticeable deafness or tinnitus, and if accompanied by vomiting, it may not be recognised as Menière's disease, but may be ascribed to more serious intracranial disease such as cerebellar tumour or thrombosis, or an acoustic fibroma growing from the sheath of the auditory nerve in the posterior fossa. In tumour cases the usual symptoms of intracranial pressure must be looked for, headache, congestion of the optic discs, strabismus, and other cranial nerve palsies.

Cerebellar Thrombosis

Cerebellar thrombosis is a feature of a not very rare thrombosis of a small artery given off by the vertebral before it joins the basilar artery at the base of the brain. This little vessel is known as the posterior inferior cerebellar artery, and it supplies the side of the medulla as well as the under surface of the cerebellum. I have seen quite 50 cases of this lesion, and the symptoms it produces are not difficult to recognise. Sudden urgent objective vertigo occurs, usually causing the patient to fall down, with a feeling of intense nausea, probably vomiting, and intense feeling of malaise. Often the vertigo is of such a nature at first that his position in space appears to him quite altered or even reversed. Objects will not appear to keep moving, as in aural vertigo, as the forced movements of nystagmus do not continue for long, but the spatial distortion may continue for as long as two days. One such patient of mine fell suddenly when in his bathroom, and owing to the immediate spatial distortion produced, he felt as

though the electric light pendant appeared to be sticking straight upwards at him from below, and he hung on tight to the side of the bath to prevent himself from falling down on to the ceiling. On examination later in bed there is usually found analgesia of one side of the body up to the neck on the opposite side to the lesion, with loss to pain and heat on the trigeminal area of the same side. The treatment for such cases of cerebral lesion is chiefly symptomatic, with complete rest in bed, and sedatives. It may be many weeks or even as long as four or five months before they learn to walk again, the gait being extremely ataxic and almost crab-like at first. Ultimate complete recovery is, however, almost the rule, though the crossed analgesia may remain as a permanent sequel.

The treatment of labyrinthine vertigo due to otosclerosis is very difficult, and the ear, nose, and throat surgeon and the neurologist alike may fail to make much impression on it. Acute cases must be kept in bed, the room somewhat darkened, and bromides, but not aspirin or salicylates or quinine, administered. Avoid, therefore, Faivre's cachets in these cases. A local blister or mustard leaf behind the ear on the affected side may also be of service.

In any case, and this applies to all your treatment in practice, keep on trying. Do not tell your patient there is nothing more to be done. I have more than once heard a patient say of his medical attendant "I like So and So, he never gives up." Never take away hope from your patient, it is often one of the finest remedies not in the pharmacopœia. Let your working motto be: Guérir quelquefois, Soulager souvent, Consoler toujours.

INFECTION OF THE NASAL SINUSES AND TONSILS IN THE PSYCHOSES

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THE importance of toxæmia as a causative factor in the psychoses is still undetermined. The present paper deals with the part played by infections in the mouth and nasal sinuses. A recent monograph [1] shows that in Birmingham mental hospitals these infections are found in the large majority of psychotics, and are considered to be the most important causal factor in most forms of mental disease. In the same monograph, however, Clark and McCowan report that, working at one of the Kent county mental hospitals, they found the incidence of sinusitis to be about 5 per cent.

It has been the practice at Cardiff City Mental Hospital for some years to carry out a routine oto-rhinolaryngeal examination of every admission, and this paper is based on the results of examination and treatment of the 807 consecutive admissions to the hospital during the three years 1930–32.

The theoretical aspects of the subject have been dealt with fully in the aforementioned monograph, and this paper is therefore confined to a description of methods employed, incidence, and results of treatment.

NASAL SINUSITIS

Special investigation of the sinuses was carried out in every case which gave the slightest indication, objective or subjective, of sinus trouble, and also in all cases where the mental state suggested a possible toxic causal factor, confusion of greater or lesser degree being the chief criterion. The investigations included transillumination, radiography, and proof puncture of the sinuses.

Technique of Sinus Investigation.—In the nasal investigations the technique used for the collection of the material was that of Watson-Williams.[2] Saline wash-outs of the maxillary antra and ethmoidal and sphenoidal sinuses were made, with the exception of an occasional sphenoidal sinus which proved inaccessible. Separate needles were used for the puncture of each sinus, so as to avoid the possibility of infection from one sinus contaminating the washings from another.

Technique of Bacteriological Investigation.—The saline washings were examined microscopically for cellular contents. Cultures of the washings were made, aerobically and anaerobically, and any colonies obtained were subcultured. The subcultures were examined, and if found pure were typed by means of sugars. Vaccines were prepared from the subcultures when advisable.

Results of Sinus Investigation.—The number of cases dealt with during the three years was 807 and, of these, indications for complete sinus investigation were present in 51. These indications were local in 18, mental in 21, and both local and mental in 12.

The detailed bacteriological examination of sinus washings gave some growth in the culture plates in no less than 70 per cent., but, apart from the cases of definite sinusitis, the growth was extremely slight; and this finding of a few organisms in apparently healthy sinuses is probably of no significance. Unfortunately, in the absence of control investigations in healthy non-psychotics, this point cannot be definitely settled; but it seems unjustifiable to suggest any connexion between such findings and the psychosis. When an intradermal test was performed with a vaccine prepared from such organisms, the test was negative, suggesting that the patient was not sensitised to the organisms. A course of such vaccines had no effect on the physical or mental state of the patients; nor did it produce any striking change in the opsonic index of the homologous serum. Definite evidence of sinusitis was forthcoming in 24 patients—viz., 6 toxic-exhaustives, 1 obsessional neurotic, 3 schizophrenics, 6 manic-depressives, 4 involutional melancholics, 4 epileptics.

Much the commonest organism was *Staphylococcus albus*, and this was the only organism isolated in pure culture. The following organisms were amongst those found on more than one occasion: *Micrococcus catarrhalis*, diphtheroid organisms, Friedlander's bacillus, *B. mucosus capsulatus*, *Staphylococcus aureus*, *Streptococcus viridans*, *Streptococcus hæmolyticus*.

The clearing-up of the sinusitis, with the tonsillitis when present, resulted in improvement in all 6 toxic-exhaustives, the obsessional neurotic, 1 schizophrenic, 3 manic-depressives, and 1 epileptic, but no involutional melancholic. This means that in the 24 cases treated, improvement resulted in 50 per cent. In mental cases it is extremely difficult as a rule to assess the effects of treatment, and this is particularly so when dealing with the recoverable psychoses. Full allowance has been made for this in the above assessments. What is claimed is that recovery in the manic-depressives was appreciably accelerated by the treatment. The schizophrenic improved sufficiently to go home,

[1] Jour. Ment. Sci., 1932, lxxviii., No. 322.

[2] Ibid., p. 647.

whereas before treatment she seemed destined to spend the rest of her life in hospital. The treatment seemed a valuable adjunct to the psychotherapeutic treatment of the obsessional neurotic. The epileptic listed amongst those improved by the treatment had no other special form of therapy while in hospital—and, as there was considerable improvement in the number of her fits and her general mentality, it was felt justifiable to attribute the improvement to the clearing-up of her sinusitis and removal of her septic tonsils. It is, however, in the toxic-exhaustive cases that I feel more certain of the beneficial results of treatment. In the majority of the six cases treated, the course of the illness left no room for doubt that the clearing-up of the septic sinuses and tonsils was the important element in the recoveries.

Relative importance of local and mental indications.—Sinusitis was present in all 12 cases where the indications were both local and mental, in 1 of the 21 cases with only mental, and in 11 of the 18 cases with only local indications, the negative results in the latter being chiefly where the indications were subjective. Of the 12 cases which improved as a result of treatment, 11 had shown both local and mental indications, the remaining 1 being the epileptic where only local symptoms were present. While the results might be said to suggest that for the diagnosis of sinusitis a routine rhinolaryngeal examination is sufficient, without reference to mental symptoms, I feel convinced that all cases showing confusion or other toxic symptoms should be submitted to full examination, and here it should be emphasised that close coöperation between the rhinologist and the medical officer in charge of the patient is essential.

TWO CASE-HISTORIES

The following illustrative case-histories show a partial recovery in a hebephrenic and a complete recovery in a case of toxic-exhaustive psychosis.

CASE 1. Aged 28. Single. Occupation: nil. Admitted Dec. 18th, 1929, with a history of five years' duration. She was an advanced hebephrenic, extremely irrational, practically inaccessible, given to wandering about in an aimlessly restless fashion, continually attempting to kiss those around her, and behaving in a generally erotic manner. She was autistic, actively hallucinated, interfering, mischievous, and untidy. She was in rather poor general health, emaciated (7 st.), constipated, and somewhat toxic-looking.

Examination by the rhinologist revealed pus on the floor of both nostrils, with enlarged middle turbinals. Proof puncture of the right antrum gave pus, and intranasal drainage of the antrum was performed. Proof puncture of the left antrum gave mucus. The left middle turbinal was removed and the ethmoids drained. The sphenoids were clear.

Her physical health improved, and four months after operation she had gained 4 lb. in weight; but there was no appreciable mental change. Examination at this time still showed pus in both nostrils and high up in the posterior ethmoidal region, while a skiagram showed opacity of both antra with the frontal and sphenoidal sinuses clear. Further operative treatment was considered advisable, and on Feb. 11th, 1931, polypi were removed from the ethmoids and the ethmoidal labyrinth was opened up. Wash-out of the antra gave mucopus. A Friedlander type of organism was cultured and an autogenous vaccine prepared and administered. The sinuses continued to drain well, and by the end of 1931 her sinusitis appeared to have cleared up; the skiagrams corroborated this.

Her mental progress had been very slow, but by this time there was definite evidence of improvement in her general behaviour, though she still exhibited many mannerisms, showed little interest in reality, spoke in whispers, and was given to the nursing of odd articles which she called her "baby." It is of interest that her hyperglycæmic index [3] varied pari passu with the clinical evidence of her toxæmia, being high on each occasion before operative interference and falling to normal afterwards. She continued to make steady progress, and was allowed out of hospital on trial on August 12th, 1931, having reached the "recovery with defect" stage of the schizophrenic. Her weight was then 8 st. 10 lb. She was seen and discharged at the end of four weeks, the report being that she had occupied herself well at home, using her own initiative, mixing freely with her friends, doing her own cooking and shopping, and taking a normal interest in her surroundings. Her improvement has been maintained.

Comment.—The clinical result of the clearing up of the chronic sinusitis in this case points to its having been a potent contributory factor in the psychosis; and it is probably a legitimate surmise that early treatment of the sinuses would have prevented much of the residual defect.

CASE 2. Aged 27. Married. Housewife. Admitted as a voluntary patient on July 1st, 1931, from the psychiatric out-patient department of the Cardiff Royal Infirmary, suffering from a toxic-exhaustive psychosis.

The patient was married in April, 1931, before which she had been a forewoman in an oilskin factory. For some time before marriage she had found herself "unable to think properly," "as if my mind was all in a muddle," and she found it difficult to sustain interest in things which she had formerly enjoyed. She found the idea of marital relationships "disgusting," and at the time of her admission the marriage had not been consummated. She became depressed and tearful, easily fatigued, subject to nightmares, and aurally hallucinated, her hallucinations being vague and chiefly hypnagogic. This was her condition on admission.

She lay in bed, taking little or no interest in her surroundings, and frequently picking her face and hair. She wore a look of distressed perplexity, but stated that it was "lovely to be here—like Heaven." There was a mild degree of confusion present, more subjective than objective. Her physical health was poor. She had a sallow, toxic look, appeared exhausted, and had some albuminuria and secondary anæmia with relative lymphocytosis. Her breath was foul and her tongue dirty. She had large septic tonsils, and polypi and pus in both nostrils and on the posterior pharyngeal wall. The skiagram showed opacity of the left sinus. On Sept. 22nd, 1931, up to which time she had shown no appreciable change, operative treatment was carried out. Wash-out of the right antrum gave thick pus; of the left antrum, blood-stained fluid. The ostium of the left antrum was partly blocked by overhanging mucous polypi. Both right and left ethmoids were full of polypi, which were removed, and the ethmoidal cells were opened with spoon and curette; the right antrum was drained intranasally and the tonsils were removed. An intradermal test was positive, and the opsonic index rose as a result of a course of autogenous streptococcal vaccine.

Discharge of pus continued for some months, and adhesions between the septum and right middle turbinal had to be separated; but ultimately the condition healed up satisfactorily. Improvement in the mental state set in soon after operation, and the more striking symptoms, such as hallucinations, quickly disappeared. Her physical health also improved. Her feelings of inadequacy and confusion, her fatigability and inability to concentrate were much slower in clearing up; but by December she was spending week-ends at home—and on March 12th, 1932, she was discharged completely recovered. Her recovery has been fully maintained, she is living and enjoying a normal married life, and was recently delivered of a healthy child.

Comment.—The history and course of this psychosis are in keeping with the view that her sinusitis and tonsillitis were causal of her toxic-exhaustive psychosis.

RESULTS OF TONSILLECTOMY

In 25 cases—i.e., 31 per cent.—including 8 cases of sinusitis, the tonsils were found to be hypertrophied, cryptic, or frankly septic, sufficient to

[3] McCowan, P. K., and Quastel, J. H.: THE LANCET, 1931, ii., 731.

justify tonsillectomy. The diagnoses in these cases were :—

Manic-depressive, 8 (2 with sinusitis); involutional melancholia, including 1 puerperal case, 2 (both with sinusitis); schizophrenia, including 1 puerperal case, 6 (1 with sinusitis): toxic-exhaustive psychosis, 5 (3 with sinusitis); epileptic psychosis, 2 (1 with sinusitis); secondary dementia with attacks of confusion, 1; chronic epidemic encephalitis, 1.

In 15 of these cases the physical health improved after operation, accompanied by an improvement in the mental state in 9 (5 with sinusitis)—viz., 3 manic-depressives (1 with sinusitis), 1 hebephrenic (without sinusitis), 4 toxic-exhaustives (3 with sinusitis), and 1 epileptic (with sinusitis). In the 8 cases with sinusitis and tonsillitis, of whom 5 improved as a result of treatment, it is impossible to say how much of the improvement was due to the tonsillectomy. In the other 4 cases which improved as a result of tonsillectomy, the impression gained was that, while in none of the cases was toxæmia from a tonsillar focus the primary cause of the psychosis, it was probably contributory in all, and the tonsillectomy at least hastened the rate of recovery. In all 4 the tonsils were frankly septic, and the 2 manic-depressives themselves dated their improvement from the operation. Neither of the puerperal cases responded to this treatment.

COMMENTARY

Some explanation seems to be called for to account for the grave discrepancy in the relative importance ascribed to sinusitis as a cause of mental disorder by the Birmingham and Cardiff schools of workers. When it is appreciated that at Birmingham sinusitis is found in over 80 per cent. of the patients, while at Cardiff only 24 cases were found in 807 consecutive admissions—i.e., 3 per cent.—it appears that the primary difference must lie in what is to be regarded as sinusitis. Even in the 51 carefully selected cases subjected to proof puncture at Cardiff, only 24—i.e., 47 per cent.—showed sinusitis. At Cardiff it is felt to be quite unjustifiable to diagnose sinusitis merely on the ability to culture a few organisms from sinus washings. It is highly probable that healthy controls would approximate very closely to psychotics in this respect.

Secondly, even if it be provisionally granted that the isolation of a few organisms from the nasal sinuses is proof of infection, this does not seem to warrant the further assumption that such infections should necessarily be regarded as a contributory factor in any psychosis present. The ground on which Birmingham and Cardiff certainly do agree is that in the case of overt sinusitis correction of this condition is imperative, as there appears little room for doubt that in an appreciable proportion of such cases definite improvement results from treatment.

It appears to me that investigation of the kind under discussion must be carried out in a highly critical manner. The work must be regarded as still in the experimental stage, and the interpretation of results as controversial; and it would be unfortunate if extravagant claims should bring into disrepute what appears to be a hopeful method of attack on the psychoses. My summing-up of the position is that infection of the nasal sinuses and tonsils is an important causal factor in a small minority of psychotics, that its eradication in these cases leads to cure or amelioration, and that it should always be looked for and treated vigorously when present. Especial emphasis should be laid on the importance of these infections in the toxic exhaustive psychoses, since here they appear to be comparatively common and frequently causal.

The rhinolaryngeal and bacteriological investigations were carried out by Mr. A. A. Prichard and Dr. H. A. Scholberg, consulting rhinolaryngologist and pathologist respectively to Cardiff City Mental Hospital.

THE SERUM TREATMENT OF HODGKIN'S DISEASE

WITH AN ACCOUNT OF FOUR CASES TREATED

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As a result of the publication by Utz and Keatinge [1] of a new form of treatment for lymphadenoma and their request for a further trial of the method, four cases of this disease have been treated in St. Thomas's Hospital on the lines laid down by them.

The technique used was briefly as follows. A fresh portion of gland, removed from the patient and kept bacteriologically clean, was emulsified in a small quantity of normal saline and injected subcutaneously into the leg of a chicken. After ten days the chicken was bled and serum was prepared, subsequent bleedings being done at weekly or fortnightly intervals; the details of the technique as well as the administration and dosage of serum to the patients were exactly as described in the above article.

It is not proposed to give the references to other forms of treatment in lymphadenoma, as these are given in full by Utz and Keatinge; no subsequent publications, up to March, 1933, of a similar form of treatment have been found. The procedure detailed by these authors was suggested to them by the work of Elise l'Espérance on the ætiology of lymphadenoma, in which evidence was produced to show that it was a form of avian tuberculosis. It is interesting to note in view of this fact that the autopsy on the chicken of Case 1, which died under anæsthetic one month after inoculation of gland emulsion, revealed no abnormality either at the site of injection or elsewhere in the body, and that sections of liver, spleen, bone-marrow, and lung appeared to be quite normal microscopically. Further, an attempt to confirm the results of l'Espérance by C. E. van Rooyen [2] has failed to show any evidence of avian tuberculosis in lymphadenomatous material.

CASE RECORDS

CASE 1.—Female, aged 27. In November, 1931, the patient first noticed a small tumour above her left clavicle. She was given a course of X rays to the mass but it grew steadily larger and in February, 1932, she was admitted to St. Thomas's Hospital. At that time the swelling was about the size of a small orange and a biopsy was done to establish a diagnosis. A gland was removed from the posterior triangle of the neck and on section this presented the typical appearances of lymphadenoma. At that time there were no other signs of the disease.

In the following month the mass had increased so much in size that the trachea was displaced to the right, and a further course of X rays was advised. At first there was little improvement, but subsequently the mass almost disappeared and the patient left the hospital in good health. There was no change until July, when it was noticed that dyspnœa prevented the patient from doing

her work, and a radiogram of the thorax showed considerable enlargement of the mediastinal glands. She was readmitted to the hospital where further examination revealed a loss of weight and a poor general condition. Lymph glands elsewhere in the body were not enlarged, but the temperature was raised and remained at about 100° F. There were no other physical signs apart from the fact that a blood count showed a moderate degree of secondary anæmia.

At this stage it was decided to try the results of a course of chicken serum. A gland was removed and an emulsion prepared and inoculated into a chicken. The serum was taken at regular intervals from this chicken and given in increasing doses to the patient. At the second injection the patient experienced a very severe local and general response, while shortly afterwards an extensive thrombosis of the veins of the arm occurred. The treatment was started in November and continued until the middle of February. Throughout this period the local and general state became progressively worse and the serum had little result except that it made the patient more uncomfortable. Towards the end the mediastinal glands developed so rapidly that a further course of X rays was tried in the hope of relieving the symptoms. After this the treatment was symptomatic and the patient died in May.

CASE 2.—Female, aged 26. This patient first noticed a lump in the neck in January, 1932. Some months later she visited her doctor who prescribed a mixture of iron and arsenic; the tumour however did not respond to this treatment and the patient came to the hospital in October, 1932. On admission the glands on both sides of the neck were enlarged and radiography of the thorax showed that the mediastinum was also involved. There was a constant slight pyrexia. In the abdomen the spleen was just palpable, but apart from this there were no other physical signs. The blood count was normal. A biopsy was advised and the "quick smear" made from the gland which was removed was typical of lymphadenoma. A chicken was therefore inoculated at once and a course of injections started. The first injection was given on Oct. 15th and the treatment continued twice a week until Feb. 3rd. The patient did not react to the treatment in any way and the lymph glands increased steadily in size. Eventually the mediastinal glands produced obstruction and a short course of X rays was given in an attempt to relieve the symptoms. She died shortly afterwards.

CASE 3.—Boy, aged 4½. The child was admitted to the hospital in February, 1931, suffering from cervical adenitis of three months' duration. No cause for the enlarged glands was found and a biopsy was done to establish the diagnosis. A report of lymphadenoma was returned and the child was sent to a convalescent home. In January, 1932, he was again admitted for cervical adenitis and on this occasion it was found that the liver and spleen were slightly enlarged. There were no other physical signs at that time. A course of X rays was arranged and the child made such good progress that by August, 1932, the glands had disappeared and the weight was increasing rapidly. In August however he became suddenly extremely ill and was brought to hospital for immediate admission. The temperature was 103° F., the respirations 40, and the pulse 150. There was marked wasting and the child vomited continuously. The glands on both sides of the neck were enlarged, and although no other glands were palpable the abdomen was distended and the liver and spleen could be felt. A blood count at the time showed an extraordinary degree of anæmia and the hæmoglobin was as low as 25 per cent.

In the circumstances it was not thought advisable to remove a gland, and the serum from a chicken which had already been inoculated was used. A fortnight later, after three injections, there was a startling improvement in the general condition. The temperature gradually fell to normal and the hæmoglobin of the blood rose to 50 per cent. The progress was maintained until, a short time afterwards, the child was sufficiently recovered to get about the ward. The improvement continued for four weeks; then a relapse occurred and all the old signs returned in an aggravated form. Finally, the child developed pneumonia and died a month later.

It is interesting to note that on one occasion when a blood count was done there were 30 per cent. of eosinophils present in the blood, and on the following day the figure had fallen to normal again. The child had received large doses of serum from shortly after the day of admission until the time of his death, and it must be recorded that on several occasions severe attacks of anaphylaxis, which necessitated the immediate use of atropine and adrenaline, resulted from these injections. At autopsy very extensive involvement of all the lymphatics in the thorax and abdomen was found, while the spleen and liver were also invaded.

CASE 4.—Male, aged 10. Twelve months before admission to hospital a swelling had appeared on the right side of the neck. The patient was taken to hospital where a gland was removed and a diagnosis of lymphadenoma was made. He had no further treatment for a year. On admission to St. Thomas's Hospital there were no physical signs of lymphadenoma apart from the enlarged cervical glands. The general condition was excellent. In September, 1932, another biopsy was done which confirmed the diagnosis and a chicken was inoculated with an emulsion of the gland. After the first few doses of serum the glands became definitely softer and more discrete, but the total neck measurement remained the same. A single dose of X rays was then given, following which the neck measurement fell from 14 in. on Jan. 3rd to 12¾ in. on Feb. 15th, but subsequently the glands enlarged again, and on June 5th the measurement had returned to 14 in. From this date until the end of July, 1933, the patient had regular injections of serum. In May, 1933, a second gland was removed and a fresh chicken was used, and on this occasion the gland was placed in the subcutaneous tissues of the chicken.

During the whole course of treatment the general condition of the patient remained excellent, and although there was often a brisk local reaction to the injections, these did not appear to influence the condition of the glands at all. At the end of this period the glands had increased considerably in size and as the injections did not appear to have controlled the advance of the disease the treatment was given up.

DISCUSSION

A study of these four cases reveals no evidence that the treatment with chicken serum was of any avail or that the disease was controlled in any way. In two of the patients the disease was certainly advanced when treatment was started, but in the others it may be said to have had a fair trial.

It may be argued that the number of cases is too small for an opinion to be formed, but the treatment in these has at least been thorough and the results are not sufficiently encouraging to continue. Nevertheless we have thought them worthy of publication in view of the successes which have been claimed by other workers; for lymphadenoma is a disease which is still incurable and others may be tempted to rely on this form of treatment and to regard it as offering hopes of cure.

It will be seen that in the third case there was a remarkable improvement in the general condition shortly after the injections had been started and it was hoped that this might be due to the treatment. This hope was based on the fact that there had been a corresponding improvement in the anæmia which has been emphasised as one of the earliest signs of benefit. The subsequent relapse however and the fatal termination of the disease shortly afterwards removed these hopes, and it became apparent that this was merely one of the usual periods of remission which characterise the course of lymphadenoma. As to the lymphatic glands it can be stated that in these cases there was no diminution in size noted, and in Case 4, where a second gland was removed after the patient had had treatment for several months, the sections showed a very active type of lymphadenoma with little or no fibrosis.

Finally, the injection of a foreign serum into patients is not without danger, and even in these cases it will be seen that, quite apart from the brisk local and general reaction which sometimes occurred as the dose was increased, other complications arose. In the first case an extensive thrombosis of the veins of the arm caused the patient much pain and discomfort, and in the third the attacks of anaphylaxis were sufficiently serious to be an immediate danger to life.

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2. l'Espérance, Elise: Jour. of Immunol., 1929, xvi., 27.
3. van Rooyen, C. E.: Brit. Med. Jour., 1933, i., 50.

TREATMENT OF LYMPHADENOMA WITH CHICKEN SERUM

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THE grave prognosis of lymphadenoma when treated by any known method is sufficient excuse for the following brief account of the treatment of five cases by the injection of chicken serum, as suggested recently by L. Utz and L. Keatinge.[1]

The method of these authors was based on a certain hypothesis of the ætiology of the disease—namely, that it was due to infection by avian tuberculosis. There are many reasons to doubt this hypothesis; moreover, if it were correct, treatment by an immune serum would not, on the analogy of other tuberculous disorders, be likely to be of value. There are, however, many examples of successful therapy based on fallacious theories, and the claims of the authors above-mentioned encouraged a trial of their methods.

Their methods were deliberately modified in one respect; while fresh lymphadenomatous glands were introduced into the chickens subcutaneously, as they described, the serum was not used in its natural state after removal of the clot. Such sera were found frequently to be contaminated by a staphylococcus, and the risk of infection is great. There are many cases on record of fatal infections, notably in Australia, after the injection of therapeutic sera without an antiseptic. The serum was therefore diluted after collection with an equal volume of 0·5 per cent. phenol in saline and filtered through a Seitz filter. While this modification is, naturally, to be considered in relation to the results, it should be mentioned that it would not materially affect the efficiency of any other therapeutic sera, all of which, in this country, contain a small quantity of antiseptic. The patients were injected at intervals of seven days, and the chickens were bled at intervals as required. None of the chickens suffered in health as a result of their treatment, and all were later killed when they showed no evidence of disease.

In their description of the reactions of patients, Utz and Keatinge remark on the fact that those which gave general reactions appeared to improve most. It is to be anticipated that any patient subjected to frequent injections of a foreign serum would become sensitised, and in fact four of the five cases in varying degree gave sensitisation reactions. These varied from acute attacks of asthma, and in one case a serious collapse, to urticaria; and it is surprising that all the patients do not suffer dangerous reactions. Chicken serum does not appear to be, at least in these cases, as effective a sensitising reagent as horse serum.

Without exception, the cases either had been treated, or were simultaneously treated, by deep X rays. This was also true of the cases in the original paper.

The results were disappointing. One patient suffered such severe reactions after the second dose that he discontinued treatment. Another died in the course of treatment after suffering severely from joint effusions probably due to the serum. Three patients continue under treatment. Of these, one is also regularly receiving X ray therapy; he remains in statu quo; and there was an exacerbation of glandular enlargement during treatment by serum. Another had extensive X ray treatment before the serum treatment began; his glands have shown the alternating enlargement and shrinking characteristic of the disease. The third, who has had no X ray treatment during the serum therapy, was treated by a physician outside London with serum prepared at Westminster Hospital. He states that the glands became much smaller under serum treatment, but on his return to London after three months they were as large as when he left hospital, and the physician had refused further treatment owing to the patient's complete collapse after the last dose given.

The progress of these patients does not appear to have differed from what might have been anticipated in the absence of serum therapy, apart from the serum-sensitivity developed. It should be stated that all the patients claimed to feel better after the injections, including the fatal case. This, however, should be discounted, for all the patients were aware of the gravity of their condition.

The series is a very small one and must be correlated with those reported by other workers. As, however, it included both early and late cases, some more definite improvement might have been expected if this method of treatment were of serious value. The results, in fact, offer no support for a therapy based on an hypothesis which is unconfirmed, and at first sight illogical even if the hypothesis were confirmed; and no further cases are being treated in this way at the Westminster Hospital.

HISTORIES

CASE 1.—Man, aged 37, veterinary surgeon. Onset with pruritus one year before treatment began. This had continued up to the time of initiation of treatment, when a generalised enlargement of lymph glands was first noticed. The spleen and liver were not enlarged. X ray examination showed that the mediastinal glands were grossly enlarged. There was slight secondary anæmia, which became progressively worse up to the time of death. A gland was removed and showed typical lymphadenoma, eosinophil cells and "Dorothy Reed" giant cells being prominent. A chicken was inoculated with gland tissue, and the patient received injections of this chicken's serum weekly until a fortnight before his death. He also received deep X ray treatment. He developed an urticarial rash after the fourth injection, and later complained of what appeared to be typical attacks of asthma at night, sometimes of great severity. Later still he developed effusions into his knees and both ankles. He also suffered from acute pain related to the ribs, which showed no X ray changes. A pleural effusion developed on this side; the deposit showed lymphocytes only. The anæmia increased, and just before death he showed 2,000,000 red cells, with 40 per cent. of

[1] Med. Jour. Australia, 1932, i., 521.

hæmoglobin, and 5000 white cells, of which 83 per cent. were polymorphs, 2 per cent. eosinophils, 12 per cent. lymphocytes, and 3 per cent. monocytes. He became rapidly worse, and after suffering severely from a profuse watery secretion from the nose died in coma almost exactly a year after treatment began. In this case no benefit appeared to follow treatment, and the serum reactions included urticaria, asthma, joint effusions, and possibly also rhinorrhœa. Post-mortem examination was refused.

CASE 2.—Man, aged 52, cable layer. Enlarged glands of neck for three years. Treated without biopsy with X rays for lymphadenoma; hæmoptysis after fourth application. Gland excised at Sussex County Hospital. Diagnosis: "On the whole probably lymphadenomatous." Clinically now diagnosed as tuberculous. Sputum negative for tubercle bacilli. Wassermann reaction negative. Gland excised at Westminster Hospital showed typical lymphadenoma; fibrosis was present, and the condition was fairly advanced. Blood count normal. X ray examination showed marked mediastinal enlargement of glands. A serum was prepared from a chicken and injected at weekly intervals for seven months. No other treatment was given. The glands at first became noticeably smaller and more discrete, but later a fresh crop appeared in the posterior triangle on both sides. Serum reactions did not develop. Patient clinically remains in statu quo; states that he feels much better.

CASE 3.—Man, aged 35, manager. Six months' history of pruritus; marked generalised enlargement of lymph glands, including mediastinal. Spleen enlarged; no anæmia; short of breath. Gland excised; typical early lymphadenoma. Serum prepared; the first dose caused no symptoms. Repeated in 7 days; very severe attack of "asthma"; collapse; revived with adrenaline and atropine. Repeated in 14 days; result similar. Patient refused further treatment.

CASE 4.—Man, aged 35, tool-maker. Two years' history of "lump in neck." A large tumour occupied the whole of the left posterior triangle. It was completely removed, and involved the sheaths of the external carotid artery and internal jugular vein, the base of the skull, and the transverse processes of the cervical vertebræ. Histologically lymphadenoma; fibrosis marked. Deep X ray therapy. Returned in six months for serum therapy; involvement of lymphatic glands everywhere. Serum prepared and administered weekly for six months; X rays were stopped. General reactions of increasing severity culminating in a dangerous collapse, after which patient's doctor, who had been administering serum, refused to give any more. Patient when seen was in statu quo; in fact, the original large mass had returned. Stated he believed treatment had done him good and that relapse was due to its cessation.

CASE 5.—Man, aged 33, clerk. Three years' history of pruritus of both forearms, buttocks (but not anus), and both lower limbs, the palms of the hands, and soles of the feet. Not trunk or face. One and a half years' history of glandular enlargement, first noted in right axilla, and since spreading widely. General health good until just before appearance of glands; since then has had shortness of breath, night sweats, and well-marked Pel-Ebstein temperature. There is a strong family history of tuberculosis. Treatment has been by X rays and also by chicken serum, prepared from an excised gland which showed typical lymphadenoma with giant cells and eosinophils. He has had regular weekly injections of varying amount. His general state is quite good, and there is no anæmia. The glands have increased and diminished in size many times while under observation. He has shown several typical attacks of urticaria caused by the serum, but no severe reactions. At the time of writing mediastinal and general enlargement of glands is quite definite, though not extreme, and the patient does not seem to have benefited by the serum treatment.

In addition, two other cases were treated; in one case the patient did not return for treatment after one or two doses; the second died after three doses.

My thanks are due to Dr. Arnold Stott, Dr. B. H. Jones, Mr. Tudor Edwards, and Mr. C. P. Thomas for the facilities afforded by them.

CARBOHYDRATE METABOLISM IN CASES OF UNEXPLAINED MISCARRIAGES

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ALL gynæcologists are familiar with the patient whose sole complaint is the occurrence of frequent miscarriages for which no cause can be found. This paper is an account of an investigation into the carbohydrate metabolism of these women. The series includes cases referred to the biochemical department not only by the gynæcological department of the hospital but also by outside gynæcologists.

The women studied form a consecutive series of cases sent for investigation during the last three years. All the patients had been examined previously by a competent gynæcologist, and no medical or gynæcological cause found to explain their inability to go to term and have live infants. Before inclusion in the series a further examination was made which included a repeated Wassermann and Kahn test, blood-urea estimation, and a complete examination of a 24-hourly specimen of urine. If no abnormality was discovered the case was included in the series, which therefore includes all cases of unexplained miscarriage investigated during the period mentioned. The patients were on the whole healthy looking women of average weight, whose appearance did not suggest any innate weakness, nor for that matter any abnormality of carbohydrate metabolism, the investigation being undertaken on purely theoretical grounds.

Many of the patients studied reported to hospital in early pregnancy, as, owing to their past history, they were anxious to know that all was normal and to avoid another miscarriage. Others came up because they were anxious to have a further pregnancy if there was a chance of a living child. The cases were therefore grouped according to whether they were pregnant or non-pregnant when examined. Further, the pregnant cases were studied throughout pregnancy and after delivery, so are subgrouped with reference to their stage of pregnancy.

METHODS

The glucose-tolerance test was carried out in the morning. The patients were allowed a cup of tea (without sugar) and one piece of toast four hours before the meal was started; this was arranged as many of the women had some distance to come. 100 g. glucose were given in half a pint of water and samples of blood for sugar estimation collected for the next two and a half hours; the samples were taken every quarter of an hour for the first hour, and then half-hourly for one and a half hours. The blood-sugar was estimated by the method of Hagedorn and Jensen. The urine was collected at the end of the first and second hours of the test, measured, and the total sugar leak estimated.

PREGNANT SERIES

This series includes 19 cases, all of whom had had more than two miscarriages or premature stillbirths (average 3·2) and no live infants. Of these patients, ten reported before the end of the third month of pregnancy. The ages of the women varied from 23 to 40 years.

The blood-sugar curves of these patients were most striking. The majority were very raised, and showed an exaggeration of the delayed fall, characteristic of sugar curves in pregnancy. Details of five of the

TABLE I.—PREGNANT SERIES

1–5 Months, 6–9 Months, and Post-confinement

Case.	Age.	Miscarriages or stillbirths.	24-hourly urine.	Blood-urea mg. per 100 c.cm.	Height.	Weight in pounds.	Result of confinement.	Blood-sugar after 100 g. glucose in mg. per 100 c.cm. blood.								Urine-sugar.			
								Duration of pregnancy.	Resting value	Time in hours. ¼	½	¾	1	1½	2	2½	1st hour		2nd hour	
																	Percentage total mg.			
1	38	2	N.A.D.	25	..	..	F.T.I. weighed 7 lb. 12 oz.	27 wks.	142	196	234	234	201	201	192	196	..	..	0·8	0·2
								35 „	75	128	157	164	155	200	174	155	..	..	0	..
2	38	3	„	26·5	5′ 3″	112	F.T.I. 8 lb. 1 oz.	7 „	103	192	192	170	161	147	143	103	0·54	..	..	..
								15 „	99	202	231	236	221	202	179	143	2·8	5·6	6·4	10·2
								38 „	116	111	129	192	192	183	170	120	0·6	2·1	3·7	1·8
								Post 2 „	94	196	224	234	240	258	224	205	0·4	1·4	1·1	2·5
								Post 5 „	94	192	211	192	179	143	147	143	0·2	1·0	0·25	0·1
3	..	2	„	43	4′ 11″	110	F.T.I. 5 lb. 13 oz.	36 „	86	107	143	189	208	208	189	170	0·8	..	2·0	..
								5 days.	86	144	199	237	232	242	222	175	0	..	0	..
								5 wks.	89	178	215	224	224	160	124	115	0	..	0	..
								Post 5 mths.	81	161	217	226	207	152	152	160	0	..	0	..
								Post 3½ yrs.	93	185	155	155	164	146	146	146	0	..	0	..
4	23	2	„	28	..	..	Miscarriage.	10 wks.	99	116	143	161	179	161	152	170	0	..	0	..
5	28	5	„	16	..	..	†	32 „	89	115	151	160	178	160	133	124	0	..	0	..
	Aver. 3·2							Aver. for 1-5 mths.	100	153	186·1	186	188	179	170	147				
								Aver. for 6-9 mths.	95·7	141·6	183	208·3	207·7	201·5	179·7	143·8				

patients are set out in Table I. The curves are shown in Chart 1 and for purposes of comparison. Similar curves obtained from normal women during normal pregnancy (E. C. Pillman Williams and Lucy Wills [1]) are also shown. The results obtained during the one to five months of pregnancy and the latter months of pregnancy were averaged separately. It will be seen that not only are both curves much raised, and the return to normal fasting levels delayed, but the relative lowering of the curve which normally takes place during the second half of pregnancy is absent.

As stated before, no sugar was detected in the 24-hourly specimens of these patients while on their ordinary diets. After 100 g. of glucose, however, 13 leaked sugar in amounts varying from a trace to 15·8 g. total output, the average total sugar output being 4·4 g. in the two and a half hours. The figures have therefore also been analysed with reference to the presence or absence of sugar leak after the test dose of glucose. In Chart 2 the average curves for both groups are shown in comparison with values obtained in a study of normal pregnancy where a certain number of cases also leak sugar. In comparison with the normal, both types of case in the present series have raised blood-sugar curves. However classified, therefore, the curves for this group of women (miscarriage series) are on a definitely higher level than those obtained from normal pregnant women.

Post-confinement the blood-sugar curves (Chart 3) after 100 g. of glucose still remained high, but in

[1] Quart. Jour. Med., 1929, xxii., 493.

TABLE II.—NON-PREGNANT SERIES

Case.	Age.	Misc., abort., or prem. births.	24-hourly urine.	Blood-urea mg. per 100 c.cm.	Height.	Weight in pounds.	Result of subsequent confinement.	Blood-sugar after 100 g. glucose in mg. per 100 c.cm. blood.									Urine-sugar.			
								Period of diet.	Resting value	Time in hours. ¼	½	¾	1	1½	2	2½	1st hour		2nd hour	
																	Percentage total mg.			
30	30	2	N.A.D.	30	5′ 1″	103	P., 7½ months. Lived 10 days.	..	80	129	151	142	147	124	115	112	0	0	0	0
31	38	3	„	24	5′ 2″	116	P., live birth.	..	116	179	236	256	188	198	161	..	0·2	0·65	Tr.	0
32	25	4	„	28	..	..	..	..	111	147	187	196	160	147	169	159	0	0	0	0
33	18	2	„	26	5′ 6″	170	..	..	133	196	229	214	201	142	188	134	0	0	0	0
34	30	2	„	16·5	5′ 4″	126	P., live birth.	..	81	217	256	236	207	125	134	116	0·5	1·0	0	0
							F.T., live birth.	3 weeks.	98	170	198	170	143	125	125	107	0	0	0	0
35	38	1 P. 4 M.	„	20	5′ 5″	119	..	..	115	192	196	205	192	170	183	111	0	0	0	0
	Aver. 3·16							Average for first visit of the 19 patients—	105	169	205	213·1	196	163	157	128·4				
								Average for 5 dieted cases—	106·5	159	184	184	183·1	151	150	133				

F.T.I. = Full-term infant. P. = Premature. M. = Miscarriage.

certain cases where the glucose-tolerance test was repeated 5–12 months later the curves were lower and the sugar leak was reduced, and in some cases had ceased altogether; but it must be remembered that these patients had been treated during and after their pregnancy.

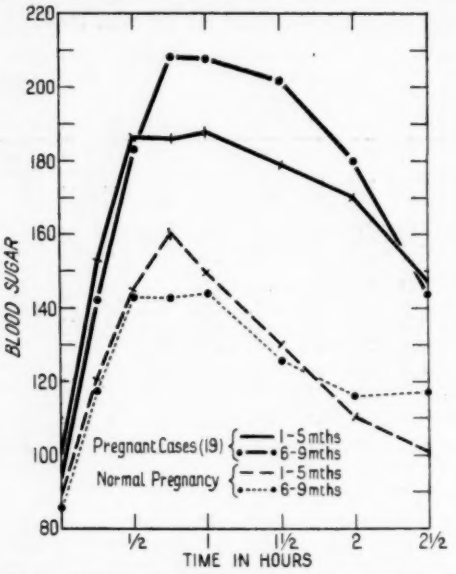

CHART 1.—Average blood-sugar curves of pregnant women with history of miscarriage and of control cases during normal pregnancy. (In this and other charts the ordinates represent mg. per 100 c.cm.)

Three cases followed from two and a half to three and a half years, with no intervening pregnancy, showed this lowering very distinctly, and their sugar curves became practically normal in type. However, a large enough number of post-pregnant women have not been investigated to enable generalisations to be made as to whether this fall would occur in all cases.

Treatment.—The sugar curves as shown above demonstrated that the carbohydrate tolerance of these patients was reduced. This series of patients were advised to diet. Their carbohydrate was, therefore, so spaced that instead of the customary three large meals a day, six smaller meals were taken.

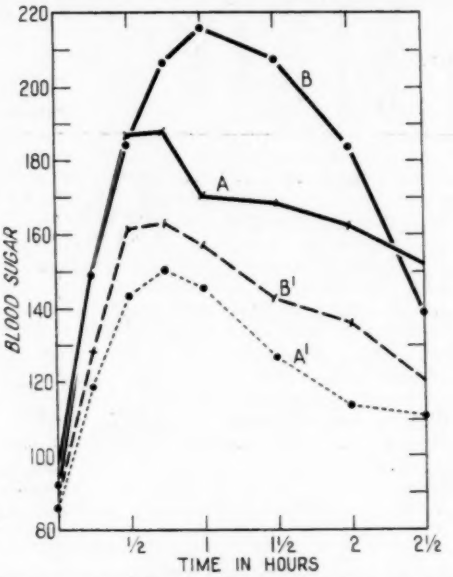

CHART 2.—Average blood-sugar curves of same series after 100 g. of glucose, classified according to presence or absence of sugar leak.

The total carbohydrate intake was not unduly reduced, the amount given was 150–200 g. a day, taken in rations of 30 g. at approximately three-hourly intervals. All patients did well on this régime only (with two exceptions discussed below), and their blood-sugars, taken after meals, were always within normal limits. These women were treated as out-patients and were able to live their normal lives. Most of them kept to their diet well, but with a few it was difficult to do so owing to their domestic arrangements.

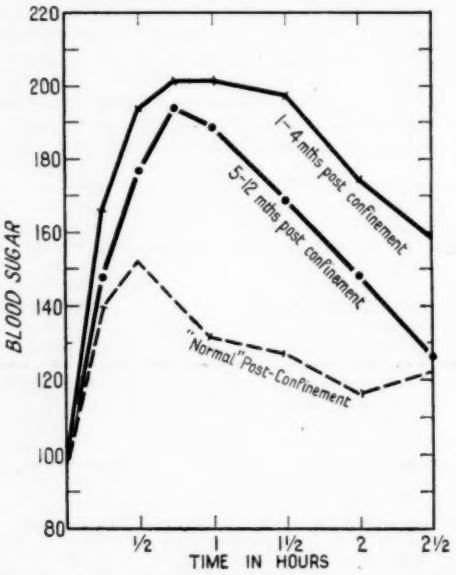

CHART 3.—Average blood-sugar curves after confinement. (Same series.)

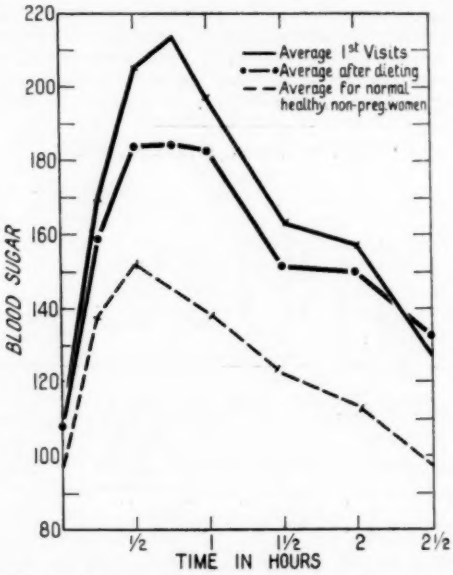

CHART 4.—Average blood-sugar curves of non-pregnant women with history of miscarriages.

Two patients of this series, in addition to diet, were treated with small doses of insulin. One of these became acidosed as she failed to carry out instructions and reduced her carbohydrate too much. She was admitted, and as her blood-sugar values on a balanced diet were high, she was given 5 units of insulin twice daily. This patient was of a low mental type, but in hospital she did well and remained acetone-free and had only occasional traces of sugar; later she was delivered of a full-term living child. The insulin was gradually reduced after confinement, and she was discharged on diet only. The other patient was one that for psychological reasons it was considered necessary to treat more actively. She was on insulin 3 units twice daily for five months, her blood-sugar levels fell, and the insulin was finally stopped some little time before she was delivered of a live child.

Previously none of these women had ever had a full-term living child, but on the other hand had an average of 3·2 miscarriages each. After supervising these pregnancies, 11 had living full-term infants, one had a premature infant, two aborted, three had miscarriages, in one the result is unknown, and one other has yet to be delivered.

NON-PREGNANT SERIES

This series consisted of 20 non-pregnant women, all of whom had had several miscarriages (average 3·16) and nearly all of whom came with a view to securing a living child. As many came from country districts it was impossible to get them to come back again to report, so that the number of cases followed through is limited.

The sugar curves of these patients, with two exceptions, all showed some definite departure from the normal. The average of these curves is shown in Chart 4, where it is seen in comparison with the normal curve for non-pregnant women, and the actual figures of five cases are shown in Table II. In 14 cases the blood-sugar curves were high; in seven of these the initial fasting values were above normal, and with one exception the curves all showed a markedly delayed fall. Four other cases had curves which did not rise above the normal value but which showed the same definite delayed fall. Two cases only had normal sugar-tolerance curves. Seven of this series leaked small amounts of sugar (average output 0·7 g. approx.) after the test dose of glucose.

Unfortunately, as stated above, it was possible to follow only a few of these cases. Nine reported after a course of treatment, and out of this number five were pregnant and have been considered in the previous list. The four cases that did not become pregnant showed little improvement as judged by their sugar-tolerance curves (Chart 4). These curves still remained abnormally high although actually there was a slight lowering of the average findings. Three of these cases before dieting had leaked sugar after the test dose of 100 g. of glucose, but after the course of diet did not leak when the tolerance test was repeated; in all three cases the blood-sugar curves were on a lower level.

DISCUSSION

Attention was drawn to this problem on account of the large number of women sent to the laboratory who clinically had no abnormality to account for their frequent miscarriages. The Wassermann and Kahn tests and tests of renal function, including an examination of a 24-hourly specimen, did not help, as in all these cases the results were within normal limits, and there seemed no obvious explanation of their liability to miscarriage.

From a large experience of the toxæmias of pregnancy it had been realised that a very considerable percentage of such cases are related not to any failure of nitrogen metabolism, but to gross errors in carbohydrate metabolism, a fact which is frequently not sufficiently appreciated. This was the starting point of the investigation.

As stated above, on an ordinary diet the patients did not leak sugar, and their fasting blood-sugars were either normal or only very moderately raised. The glucose-tolerance test, however, indicates a definite reduction in carbohydrate tolerance which improved under treatment. The reduction of carbohydrate tolerance was observed not only during pregnancy but also when the women had not been pregnant for some time. This suggests that the reduction is the result of a general condition, and not one merely related to pregnancy. The underlying cause is probably related to a lack of balance of ductless glands, but the complexity of the hormone control of the sexual cycle in women makes speculation unrelated to experiment of small value. But with a view to other lines of treatment, the relation (shown by W. E. Dixon [2]) of the posterior pituitary to carbohydrate intolerance and hypersensitiveness of plain muscle and the inhibiting effect of corpus luteum must be borne in mind.

CONCLUSIONS

1. A series of cases of repeated miscarriage without any obvious physical basis have been subjected to glucose-tolerance test.
2. A lowered tolerance for glucose was found in 90 per cent. of the cases.

I have to thank Prof. Louise McIlroy and the staff of the gynæcological unit, and Dr. Gertrude Dearnley, of the Royal Free Hospital, for sending cases for investigation.

MONTHLY PERIODICITY IN EPILEPSY

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It is well known that in certain cases of epilepsy in women there is an association between the periodicity of the menstrual cycle and the occurrence of fits, which may coincide with the monthly period, leaving the intervening weeks free. A girl under observation for some years illustrates this well. Her fits occurred in groups of major fits and myoclonic attacks quite irregularly till about a year before the onset of menstruation, when a definite tendency to periodicity appeared. Now her fits start just before or at the beginning of the monthly period and continue over about ten days, then she is free till the next cycle.

A similar monthly cycle of groups of fits has been noted in three male patients, well marked in a boy of 11 and in a man of 40, rather less definite in a man of 20 years old. In these cases fits occur over a period of four to ten days, with the onset about the same time in each month, leaving free intervals of about three weeks. These three cases have in common some abnormality of sexual development, with obesity and the assumption of some feminine characteristics.

CASES

Case 1.—Girl, aged 16. Family history of heavy drinking in father and paternal grandfather, and uncle

[2] Brit. Med. Jour., 1927, ii., 1070.

has been in a mental hospital. The first fit occurred at the age of 5. On admission at the age of 7 she showed no physical abnormality, but was under average height. Major fits and myoclonic attacks occurred in irregular groups till June, 1929, when a monthly incidence began to be noticeable. Menstruation started in September, 1930, with a cycle of about 30 days. The fits now begin about the onset of the period and last about ten days. She is a stocky, plump girl, height 5 ft. 4½ in., weight 8 st. 6 lb.; the head is square and flat topped. The breasts and pubic and axillary hair are well developed. She shows no physical abnormality.

Glucose-tolerance test: fasting blood-sugar, 0·056 mg. per 100 c.cm.; half an hour after 50 g. glucose, 0·08 mg.; one hour after, 0·098 mg.; two hours after, 0·095 mg. Serum calcium ranges from 7 to 10·5 mg. Ca per 100 c.cm.; serum phosphorus from 3 to 5 mg. per 100 c.cm. Urine is normal, specific gravity 1025, no polyuria or polydipsia. Radiography of the skull shows a rather small sella with prominent clinoid processes almost bridging the fossa.

The fit incidence during six months was: August 19th–30th; Sept. 17th–27th; Oct. 10th–20th; Nov. 18th–28th; Dec. 24th–Jan. 1st; Jan. 31st–Feb. 10th.

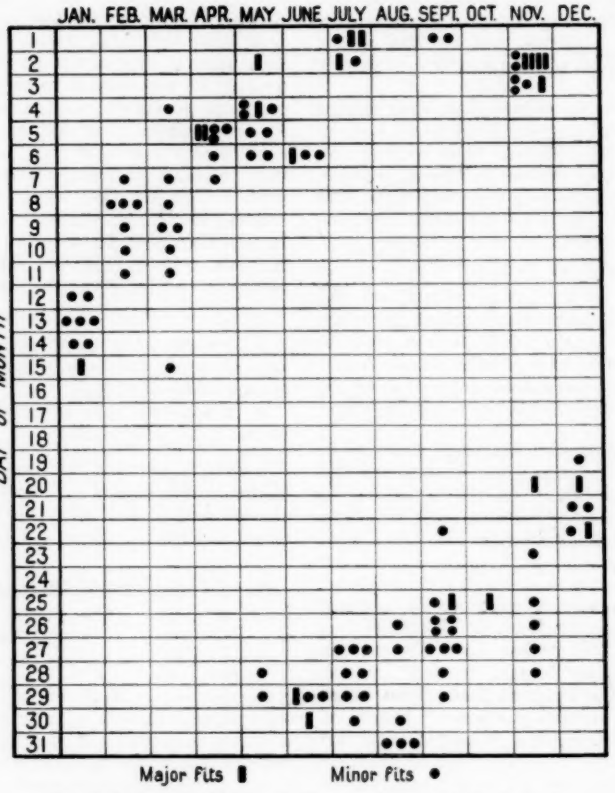

Chart showing incidence of fits in a boy aged 11 (Case 2).

CASE 2.—Boy, aged 11. The father had fits as a child and a paternal uncle is epileptic. Two brothers died soon after birth. Patient had convulsions during teething; the first fit was at two years of age. The fits now occur in groups of major and minor attacks lasting over several days, each group beginning about the middle of the month, the intervening weeks being free of fits. He is a chubby fat boy, 4 ft. 5 in. in height, and weighing 6 st. 5 lb. He is square-headed and stocky. The obesity is general, the skin is soft and moist. The testicles are small; the left testicle is descended, but the right, though palpable, is undescended. Otherwise there is nothing abnormal.

Glucose-tolerance test: fasting blood-sugar, 0·064 mg.; half an hour after 50 g. glucose, 0·174 mg.; one hour after, 0·094 mg.; one and a half hours after, 0·108 mg.; two hours after, 0·076 mg. Urine specific gravity 1036, trace of sugar present. Serum calcium varies between 8·4 and 10·9 mg. per 100 c.cm.; serum phosphorus from 3·12 to 6·6 mg. Radiography of the skull shows a large head with thick bone; the sella turcica is small but well formed.

The recent monthly fit incidence has been: Sept. 22nd–28th; Oct. 25th–Nov. 3rd; Nov. 20th–28th; Dec. 19th–22nd; Jan. 16th–20th; Feb. 13th–20th; March 16th–20th; April 14th–23rd; May 11th–15th.

CASE 3.—Man, aged 40. Family history negative. His first fit was in the Army, due to "shell-shock." For years his fits have shown a monthly incidence of short groups of one or two major fits followed by minor fits and sensations over a period of three or four days, with free intervals. He is a short solidly built man with a square head. His height is 5 ft. 6 in., and weight 13 st. 4 lb. The fat is mainly disposed on the trunk. There is marked gynæcomastia, with large nipples. On the left side he has an accessory nipple, and a mole below it in the nipple line. The testicles are very small, descended; there have been no emissions for years.

Glucose-tolerance test: fasting blood-sugar, 0·06 mg.; half an hour after 50 g. glucose, 0·11 mg.; one hour after, 0·176 mg.; two hours after, 0·096 mg. Urine has a sp. gr. of 1021, with slight glycosuria; no polydipsia or polyuria. Serum calcium, 9·4 mg. per 100 c.cm.; serum phosphorus, 3·4 mg. Radiography shows a very thick skull with a small shallow pituitary fossa. The posterior clinoids are thick, with some appearance of bridging.

The recent fit incidence has been: Sept. 30th–Oct. 4th; Oct. 26th–31st; Nov. 27th–Dec. 1st; Jan. 3rd–7th; Feb. 15th–23rd.

CASE 4.—Male, aged 20. A maternal uncle is epileptic. An instrumental birth was said to be followed by a dent on the head noticeable for three to four years. The first fit was at the age of 9 years. He was intelligent and did well at school. Fits were in irregular groups till 1930, since when he has had runs of four to eight major fits in 36 hours. He has two or three of these groups spread over ten days, then a free interval of about three weeks. He is a square-headed, stout youth, 5 ft. 9 in. in height, weight 10 st. 8 lb. His facial hair is scanty, the genital organs are normal, but the testicles rather, small. He is now very dull and apathetic, so that it is impossible to obtain knowledge of any sexual activity.

Glucose-tolerance test: fasting blood-sugar, 0·06 mg.; half an hour after 50 g. glucose, 0·11 mg.; one hour after, 0·07 mg.; one and a half hours after, 0·09 mg.; two hours after, 0·058 mg. Serum calcium varies between 8·6 and 10·7 mg. per 100 c.cm.; serum phosphorus, 4 mg. per 100 c.cm. Urine is normal, sp. gr. 1024. Radiography shows a sella turcica normal in size with large posterior clinoid processes; there is also some calcification of Paccionian bodies.

Recent fit periods have been: August 15th–16th; Sept. 11th–12th; Oct. 6th; Nov. 1st, 7th, 8th; Nov. 29th–Dec. 4th; Dec. 27th–Jan. 4th; Jan. 24th–Feb. 9th; March 1st–6th.

In these four cases we have stocky, square-headed patients of normal or short stature, with a tendency to obesity. The girl appears normal in her sexual development, while the boy approximates to the type of adiposo-genital dystrophy. The older man shows evidence of developmental sexual anomaly. The fourth case, at present less definite, is changing

from a very intelligent youth to a slow dull person, unusually rapidly and markedly, and while this may be accounted for by his fits it might hypothetically be associated with endocrine disturbances. All four cases show some defect of carbohydrate metabolism, two cases showing glycosuria, and the other two having markedly increased sugar tolerance. There is no evidence of disturbed water metabolism. There are no local or radiological signs of a gross pituitary lesion, though the appearance of enlarged posterior clinoid processes may have some bearing on the condition.

This association of adiposity, sexual dysfunction, disturbed carbohydrate metabolism, with some slowness and dullness, points to an abnormality in the hypophyseo-diencephalic mechanisms, manifesting itself also in the periodicity of the epileptic discharges. This is of special interest in view of the suggestion that the diencephalic centres are responsible for periodicity in sleep, hibernation, and menstruation. It appears that in these cases the occurrence of the fits may be influenced or regulated by the abnormal activity of the hypophyseo-diencephalic centres.

I have to thank Dr. J. Tylor Fox, the medical superintendent of Lingfield Colony, for his kindness in allowing me to publish these cases, and for his assistance with the clinical details.

Clinical and Laboratory Notes

A CASE OF HEREDITARY TELANGIECTASIA

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THE rarity of this condition makes it worthy of record, especially as the patient exhibited one or two unusual features.

History.—A man, aged 37, a machine-hand, was admitted to Middlesex Hospital on April 4th, 1933; the symptoms were shortness of breath, palpitations, swelling of feet, frequent epistaxes, and bleeding from spots on his lips. The shortness of breath had been present for six months and the swelling of feet for three weeks prior to admission. He had had epistaxes ever since 1918, but during the last six months they had become more frequent. Whereas formerly they had only occurred about once a month, more recently they occurred daily, particularly at night. He had noticed spots on his hands, face, and lips since 1918, but only in the last two years had those on his lips started to bleed. On being questioned, he stated that he thought that one or two of those on his hands had occasionally bled. He had noticed that those on his lips actually spurted at times. He had never had hæmaturia, hæmatemesis, nor hæmoptysis, and only on one occasion, about five years ago, had he noticed blood in his stools. He had no cough. He was a non-smoker and a teetotaler.

Previous history.—He had appendicitis with peritonitis at the age of 14. He was gassed in 1916 and wounded in the left groin and arm in the same year. He was gassed again and held a prisoner of war under severe conditions in 1917. He had never had rheumatic fever, venereal disease, or other serious illnesses.

Family history.—The patient's mother, aged 70, exhibited telangiectases on the ends of the fingers, on the tongue, palate, lips and inside the nose, on the skin edge, but not on the mucosa. An interesting feature was that on the palate the telangiectases did not appear under her dental plate. She had never suffered from epistaxis nor bleeding from the finger-tips. The lesions had been present for several years, but she had never paid any attention to them. His son, aged 12½, suffers from epistaxis, and when bleeding occurs from the nose it takes an unusually long time to stop. He did not exhibit many telangiectases, but there were a few pin-point ones on his lips and dilated venules on his nasal mucosa. He had none on his hands, inside his mouth, nor on his tympanic membranes. The patient's daughter, aged 9, had one pin-point lesion on her lower lip and two spider nævi on her right wrist. She had none on her nasal mucosa nor tympanic membranes and does not suffer from epistaxis. It is not unlikely that they will both develop further lesions as they grow older. Both exhibited numerous small red spots on the tips of their tongues, probably unduly vascular papillæ. A similar observation has been made by Ballantyne.[1]

The patient has two sisters and one brother, none of whom, nor their children, as far as is known, exhibit telangiectases nor suffer from epistaxis. His maternal grandparents and great-grandparents were normal as far as his mother could remember.

On examination the patient appeared well nourished. He exhibited a distinct pallor, his complexion being of a café-au-lait colour. His relatives stated that this had been present to some degree, though not so markedly as when seen, ever since he was gassed in 1916. He exhibited telangiectases on his lips, cheeks, tongue, palate, on his nasal mucosa and on his finger-tips, some being under his nails. Those on his cheeks were chiefly of the spider variety, the remainder being nodular and pin-point. The lesions on his fingers have been observed to change from time to time, some disappearing while fresh ones appear. East [2] has also noted this fact in the daughter of one of his cases and FitzHugh [3] states that three cases have been recorded where the telangiectases have disappeared spontaneously.

The cardiovascular system revealed no very gross abnormalities. The heart was slightly dilated and there was a soft systolic murmur at all areas and a reduplicated second sound at the base. The pulse was regular, rate 84, somewhat collapsing in character, there was no evidence of arterial thickening, and the blood pressure was 120/70 mm. Hg. The respiratory system showed evidence of emphysema, but nothing else abnormal was discovered. The liver and spleen were not palpable. There was an old operation scar on the abdomen. The feet were swollen above the ankles. On examination of the central nervous system the right knee-jerk was not obtained. Ophthalmoscopic examination revealed no abnormality.

Progress.—As long as the patient remained in bed he felt quite well and the epistaxes were less frequent. They occurred chiefly at night, presumably when the nasal mucosa became more congested. The œdema of the ankles subsided rapidly, but recurred to a lesser degree when he got up again. He had an occasional rise of temperature in the evening, never above 99·4°. On the evening of May 12th he suddenly developed acute pain in the right ear. There was at first no deafness, but three days later he developed deafness in the right ear and some in the left. Inspection of the right ear showed one telangiectasis on the posterior wall of the external auditory meatus and one on the tympanic membrane. The sudden pain may have been due to hæmorrhage within the ear. Unfortunately the ears were not examined before this incident occurred so it is not known whether the lesion on the membrane was new or not. The left ear appeared normal. I have only been able to find one reference (Cockayne [4]) to a lesion on a tympanic membrane. The patient's general condition gradually improved as the epistaxes became less frequent and he was discharged on May 19th, 1933.

Special investigations.—Blood counts (April 11th, 1933). Red cells 3,450,000, hæmoglobin 30 per cent., colour-index 0·4, white cells 1200, average diameter of red cells 7·7 μ, platelets 138,000 per c.mm. May 2nd. Red cells 3,500,000, hæmoglobin 32 per cent., colour-index 0·5, white cells 5000, polymorphonuclears 60 per cent., lymphocytes 31 per cent., monocytes 7 per cent., eosinophils 2 per cent., platelets 180,000. Blood culture incubated for 12 days from April 6th was sterile. Wassermann reaction was negative. Examination of the urine did not reveal the presence of blood chemically or cytologically and there were no other abnormal constituents on clinical examination. An electrocardiograph was normal. The patient's coagulation time was 10 minutes as compared with a control's 18 minutes.

Treatment.—As there were too many telangiectases on the nasal mucosa cauterisation was not attempted. The patient was given a nebula containing ung. hyd. nit. dil. ℥ i., ol. olivæ ad ℥ i to apply to the inside of the nose, the nostrils being gently pressed together. The object of this was primarily to clean away the crusting on the inside of the nose, and after it was started epistaxis was much less frequent. This may have been due to the fact that less nose-blowing would be required. At first he was given 3 c.cm. of whole blood intramuscularly every other day, but as he appeared to have a more severe epistaxis on the same evenings this was discontinued. Iron was administered in the form of Blaud's pill grs. 20 t.d.s.

This case is a true example of hereditary telangiectasia occurring in three generations. The patient's mother did not suffer from epistaxis, explained by the fact that there were no lesions on her nasal mucosa. This freedom from epistaxis is unusual, but other cases have been recorded, notably by East. The onset of epistaxis occurred in this patient at the age of 21. This is later than the majority of cases, most of which occur in childhood, but the maximum development of the lesions has taken place between the ages of 30 and 40, which is very typical. When first seen he was considered to be a case of subacute bacterial endocarditis, in favour of this diagnosis being his ill appearance, café-au-lait complexion, varying petechiæ on his fingers, lips, and elsewhere, and slight pyrexia. Against this, his blood culture was sterile (not, of course, strong negative evidence), he had no obvious organic lesion in his heart, and there was a leucopenia. In view of his low platelet count a diagnosis of thrombocytopænic purpura was considered, but against this it is unusual for slight trauma to produce hæmorrhage from purpuric lesions, purpuric lesions do not fade on pressure as these did, and in thrombocytopænic purpura the platelet count is usually much lower than in this case.

The fact that the platelet count is on the low side is worthy of note. Hurst and Plummer,[5] FitzHugh [3] and Goldstein [6] have all stated that the platelet count is normal in this condition, and while it is admitted that platelet counts are subject to considerable error in enumeration, wherever actual figures have been recorded in this condition they have been below the accepted normal of 200,000 to 300,000 per c.mm. In view of the anæmia usually present in these cases one would have expected a raised platelet count, if anything. Coagulation times, where recorded, are normal or decreased, and this is the finding in this case. The other symptoms of which the patient complained—i.e., shortness of breath, palpitations, and œdema of the ankles—were easily explained on the grounds of his severe anæmia.

The defect, according to Hanes [7] and Gjessing,[8] appears to be an absence of muscular and elastic tissue in the walls of dilated vessels lying under a locally thin epidermis. Slight trauma causes these lesions to bleed readily, and the failure of retraction of the vessels due to absence of elastic and muscular tissue causes prolonged bleeding from the site of a lesion. There is no prolongation of bleeding from normal areas of skin or mucosa, and the disease is in no way associated with hæmophilia. The fact that the patient's mother did not exhibit telangiectases on her palate under her dental plate, but did so on unprotected parts of the palate, lends some slight support to Hanes's belief that repeated small traumata are an ætiological factor.

SUMMARY

1. A case of hereditary telangiectasia occurring in three generations is described. The presence of lesions, apart from those on the nasal mucosa, in the patient's children at an age earlier than is usually observed is noted.

2. Interesting features are the lesion on the right tympanic membrane, the fact that his mother has never suffered from epistaxis or other bleeding, and the platelet count being below normal.

3. The differential diagnosis of this case is discussed and the treatment described.

I am greatly indebted to Dr. C. E. Lakin for permission to publish this case, to Prof. J. McIntosh and the Bland-Sutton Institute of Pathology for blood examinations, to Dr. E. A. Cockayne and Mr. C. P. Wilson for their help, and to Dr. G. E. S. Ward for electrocardiographing the patient.

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HÆMOLYTIC JAUNDICE

AN ATYPICAL CASE

BY D. M. SUTHERLAND, M.D. MANCH., F.R.C.S. ENG.

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HÆMOLYTIC jaundice is of two types, the congenital and the acquired. The less common acquired type appears later in life than the congenital; it shows less jaundice, and although the anæmia is more marked the red blood-cells show only slightly increased fragility, as is evident from a case described by East.[1] The congenital type is stated to be definitely familial; the blood shows an indirect van den Bergh reaction, a mild secondary anæmia, usually with increase in microcytes and reticulocytes, and increased fragility of the red cells. The spleen is markedly enlarged, and often exacerbation of pain occur in the liver and splenic regions, accompanied by increase of the jaundice. The increased fragility of the red cells is usually accepted as the cause of the condition, but the rôle of the spleen as the causative factor has been stressed by Minkowski, and the details of the following case support his view.

A child, aged 5 years, was seen by me in March, 1933, suffering from jaundice. This had been present since birth without any intermission. Apart from slight attacks of pain in the upper abdomen at prolonged intervals she had appeared to be quite healthy. There was no history of any similar condition in the family. The blood showed an indirect van den Bergh reaction, and a count showed 4,224,000 red cells per c.mm. The red cells did not show anisocytosis or poikilocytosis. The hæmoglobin percentage was 74. The fragility of the red cells was not increased, hæmolysis starting in 0·45 per cent. solution and being complete in 0·38 per cent. solution. The Wassermann reaction was negative. The spleen was enlarged and palpable, and although the blood did not show the characteristics of acholuric jaundice, it was decided to remove the spleen. This was performed through a muscle-splitting incision in the left rectus. The enlarged spleen had no adhesions and was easily removed. Within five days the jaundice had disappeared and has not since returned. The blood examination now shows a red cell

[1] East, C. F. T.: Proc. Roy. Soc. Med., 1933, xxvi., 365.

count of 5,280,000 per c.mm.; hæmolysis starts in 0·4 per cent. solution and is complete in 0·3 per cent. solution, a very slight and negligible difference from the test before operation. The spleen did not give the Prussian blue test for iron; the pulp was full of red blood-cells.

The case does not conform with the usual history of congenital acholuric jaundice. The jaundice had been present since birth without intermission, and had been regarded at first as icterus neonatorum. There was no increased fragility of the red blood corpuscles and no family history of the disease. It would seem that in this case over-activity of the reticulo-endothelial cells of the spleen with increased hæmolysis was the cause of the jaundice.

I am much indebted to Dr. A. E. Somerford, of the Royal Manchester Children's Hospital, for the laboratory tests in this case.

TORSION OF THE TESTIS

BY STEPHEN POWER, M.S. LOND., F.R.C.S. ENG.
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I WAS recently asked to see a case of torsion of the testicle, an account of which may prove of interest.

A man, aged 26, married, with no children, complained of pain starting in the left loin five days ago. A day later it had radiated to the groin and continued to be severe until he was seen. The onset was gradual and not associated with any effort. He had no sickness and the bowels were confined. On examination the abdomen was tender and rigid in the left inguinal region, and there was rectal tenderness. The testicle on the left side was not palpable, either in the scrotum or in the usual abnormal positions. A diagnosis of torsion was made with the proviso that the trouble might be due to strangulation in an accompanying hernia or merely inflammation in an undescended testis. There was no evidence to suggest an adenitis.

The patient was admitted to the Eltham and Mottingham cottage hospital. At operation a rudimentary cord and narrow hernial sac was found in the left canal but no testis. These structures were tied off and removed. Incision of the transversalis fascia revealed a greatly thickened peritoneum, and a rounded mass not unlike a testicle was felt bimanually through the abdominal wall. Laparotomy was performed through a left lower paramedian incision, and even at the lower end of this wound there was œdema. A gush of dark blood-stained fluid welled up from the pelvis and the testicle was at once seen, as an intra-abdominal viscus, attached to the internal ring by a cord about three-quarters of an inch long. It had twisted four times on its pedicle. Removal entailed no difficulty. The testis and epididymis were normal in size and relationship, but a deep plum colour from congestion. The cord was thrombosed in most of its short length. The peritoneum formed a complete investment, and there was no suggestion of a tunica. Recovery was uneventful.

The ectopic testis as a rule is found in one of three positions—namely, interstitial, in the abdominal wall; crural, in Scarpa's triangle; and perineal. This was really a case of non-descent. If the fold of peritoneum, which covers the testis in its developmental position below the kidney, the mesorchium, is unduly lax, it falls away from the internal and does not become engaged in the canal, finally becoming completely pedunculated. The ring here it is true was small, but this may well have been a result rather than a cause of non-descent.

MEDICAL SOCIETIES

MEDICAL SOCIETY OF LONDON

ON Oct. 9th Sir JOHN THOMSON-WALKER gave the presidential address to this society, choosing as his subject

Surgery in the Early Nineteenth Century

"What I will place before you," he said, "is a series of sketches of some of the surgical methods and surroundings of a hundred years ago, in the hope that you may carry away a picture of the surgery of that time. I am fortunate in my material, for I have the manuscript notes of a medical student who walked the hospitals in London at that period. John Greene Crosse was a student from September, 1811, until August, 1813. He had been apprenticed to Dr. Bayly, a surgeon in the small market town of Stowbridge in Sussex, for five years, and by great industry had built up a sound knowledge of the theory and had seen something of the practice of surgery. He was entered as a pupil of Charles Bell, the anatomist, and resided in his house at 34, Soho-square. He attended the anatomy courses at the Great Windmill-street School and was enrolled a surgical pupil with Mr. Robert Keate—but it was young Benjamin Brodie who performed the majority of the operations he saw."

Throwing on the screen a list of the cases seen by young Crosse, Sir John continued: "This list is remarkable to us more for what it omits than for what it contains." Injuries and inflammations provided the majority of cases, altogether 61 per cent. of the total. Inflammations comprised: acute osteomyelitis, abscesses, and tuberculous disease of bones and joints. Of the injuries, fractures formed a large proportion, and 18 out of 27 of these were fractures of the extremities; the action of the muscles in preventing the exact replacement of the fragments and in reproducing the deformity was well understood. Fracture of the shaft of the femur was treated by local splints from hip to knee, kept in place by a 12-tailed flannel bandage, the thigh placed on a pillow and the knee moderately bent. Beneath the pillow was placed a long splint of firm timber secured with two broad straps firmly buckled to the limb. In transverse fractures of the shaft of the femur it was claimed that this treatment would never fail. But where the bone was broken obliquely "it must be confessed that cases sometimes occur where it fails completely." Unfortunately there was nothing to be done for these failures short of amputation. Flexing the limb instead of extending it was recommended, and if this failed there were various racks and pulleys by means of which force could be applied. Another principle in the treatment of fractures—namely, the early movement of joints and muscles—was circulating in the minds of surgeons at that time.

In compound fractures of the extremities the results were lamentable. The general opinion of surgeons was that amputation was always necessary, but there was another body of opinion that held amputation to be seldom or never required. It could not be said that the results of the seven cases of compound fracture noted by Crosse lent much support to the plan of avoiding immediate amputation; a mortality of 57 per cent. and the recovery of the remaining 43 per cent. after long and dangerous illness was not a brilliant example to follow. "We must pass over three years before we get further

information in regard to the advantage of immediate amputation in military surgery." Crosse was now settled in Norwich as a surgeon. Crosse's old master, Charles Bell, was at Waterloo. Bell for three days scarcely had a knife out of his hand, Crosse wrote in his journal. On Oct. 18th Prof. Macartney of Dublin, his old chief, paid a visit to Norwich on his way back from the Continent. At a date which would correspond to Macartney's visit Crosse inserted in his notes a table of the "Capital P(rimary) and S(econdary) operations at hospitals at Brussels from June 16th until July 31st, 1815." From this table it would be seen that the English surgeons performed 146 amputations in the field with 40 deaths, and 225 secondary amputations during the first six and a half weeks after the battle with 83 deaths. This showed that the mortality of immediate operation was 21·9 per cent., while that of secondary amputation was 36·8 per cent.

HYDROCELE, HERNIA, AND LITHOTOMY

Hydrocele was a favourite subject for discussion at this time. A number of methods of treatment were in use, the most prominent of which were incision, seton, eschar, and injection. The seton consisted of about 30 threads of common white sewing silk which were passed through from the upper part of the swelling to its most dependent part. Inflammation commenced about the end of the third day, and when this was subsiding about the tenth or twelfth day the seton was diminished by drawing out six or eight threads at each dressing. The cure by caustic was made by means of adhesive plaster and a strip of common paste caustic, about a finger's breadth and the whole length of the tumour. The caustic was removed in five or six hours and a poultice applied. In a few days the eschar of the scrotum separated, and "in the course of four to six weeks the whole tunica vaginalis comes off, and the wound heals." Treatment by tapping and injection was the usual method. Many varieties of fluid were used, but red wine was the commonest. "When claret or Burgundy are employed they are commonly mixed with a sixth or a seventh part of water, and when port is used a third or fourth part of water is added." Crosse saw five cases of hydrocele as a student.

Operation on strangulated hernia was the sole interference with the abdominal contents that was practised, and that only because the bowel had formed an external swelling. It was only when symptoms of strangulation existed that operation on hernia was undertaken by "surgeons of character." Various measures were tried before venturing on the operation. Manipulation was of course the first, and posture was very important. For inguinal and femoral hernia the patient was to be placed as nearly perpendicularly on his head as possible. This was conveniently accomplished by "placing the patient's feet upon the shoulders of another person while his body is allowed to hang downwards and causing him in this posture to be jolted about." Blood-letting was considered as a "principal remedy." Purgatives were to be avoided, but stimulating glysters were valuable, and especially glysters of tobacco smoke, which was introduced into the rectum by various forms of bellows. Locally ice and snow were frequently used. Not more than two or three hours were to be spent in trying these measures. Gangrenous bowel was treated by cutting it away and attaching the ends of the bowel to the margins of the wound, forming an artificial anus. A cure of the hernia after operation was not expected and a truss was worn. Crosse saw two operations, and both cases did well.

Of all the major operations at this time, cutting for stone in the bladder was that which gave the surgeon most anxiety. It was the nearest approach to an internal operation that the surgeon ventured upon. It demanded anatomical knowledge, skill, courage, and, above all, constant practice. At the time when Crosse was a student, Martineau, surgeon to the Norfolk and Norwich Hospital, 1777–1828, had the highest reputation for lithotomy. When he was at St. George's Crosse saw 7 cases of lithotomy and 29 other operations; in the first two years he was at Norwich he saw 16 lithotomies and 43 other operations. In the hands of a really skilled surgeon the (stone) operation was a rapid performance. We have Morand's testimony that Cheselden's usual time in a straightforward case was about one minute, and he had seen him remove a stone in 24 seconds.

In one of Brodie's cases Crosse noted "The child was out of ye room 3½ minutes after ye commencement of ye operation." But Mr. Witham at the Middlesex Hospital bungled a case badly. "The scalpels for the outward incision would not cut and were obliged to be changed a first and a second time." The "outward incision" was too short and too high, and when the forceps were introduced the stone could not be felt. The forceps were pushed about in all directions, inserted and withdrawn, and after the three surgeons had been probing with the fingers and the forceps for 46 minutes, the patient was left in despair, the wound covered with lint and the patient put to bed. "In ye evening after ye operation a stone came away voluntarily bigger than a pigeon's egg, and tapered at each end." In spite of these difficulties the patient made a good recovery. The greatest success was in children under 14, and almost half the cases were included in this period. Here the remarkably low mortality figure of 6·8 per cent. was obtained. After the age of 40 more than a quarter of these patients died from the operation. In most of the fatal cases death was due to sepsis in some form. Hæmorrhage accounted for a few but not many. Occasionally the perineal wound sloughed, and the sepsis was evidently due either to infection at the time of the operation or to the contamination of a foul septic urine. But in the greater number of fatal cases death was due to pelvic cellulitis.

CANCER OF THE BREAST

Amputation of the breast for cancer was one of the major operations frequently performed. Many of the patients were seen for the first time when the disease was far advanced. Much time was wasted in trying remedies such as blistering, leeching, poulticing, and application of salves. The removal of the whole breast, and not only a portion of it, was recommended. The skin as far as possible was to be preserved. Clearing the pectoral muscle was part of a well-conducted operation. Crosse noted "Operations done in frosty weather are said to do badly." Crosse spent three months in Paris after leaving London, and here he saw another case. Dupuytren was the operator, and Crosse was frankly critical. "The operation was far more clumsily performed than I had expected and ye dressing could not be witnessed without pain by a person acquainted with ye union of wounds by the first intention after operation." This claim to healing by first intention was rather startling, but Crosse elsewhere elaborates the statement and gave some very interesting information in regard to the healing of wounds at that time. The method of closure in England was to bring the skin together with strapping and apply dry lint or linen smeared with simple ointment to the surface. Liga-

tures were left hanging from between the lips of the wound. "In the London hospitals complete union by the first intention is seldom or never accomplished; yet by attempting it the wound is much diminished and the cure of it rarely delayed later than three or four weeks." About the late results there was little information. In a number of cases there was no recurrence after a year's interval.

"Looking back from the pinnacle of modern surgery," said Sir John in conclusion, "the path that has been traversed between that time and the present is steep and tortuous, and the shadows that surround it are sombre and depressing. Yet when we consider the conditions of the time there is much to wonder at and something to admire. There were the faith and fortitude of the patient and the courage and marvellous dexterity of the surgeon. And there was the openness of mind and the thirst for knowledge for the sake of knowledge. Crosse had it, and his notebooks teem with accounts of dissections and experiments by which he tested the theories of the period. He got it from Charles Bell and from Abernethy; and Bell and Abernethy had it from John Hunter. It was the spirit of Hunter that pervaded the thought of the time and inspired these men. Let us catch something of it in the work of the session that lies before us."

ROYAL SOCIETY OF MEDICINE

SECTION OF THERAPEUTICS

Prof. J. H. BURN'S presidential address to this section, which was delivered on Oct. 10th, was entitled

A Pharmacological Approach to the Cause of Asthma

About four years ago, he said, he began the investigation of an obscure pharmacological problem which, though interesting enough from a theoretical standpoint, offered no hope that any result of general importance would emerge from it. The problem was first created by the observation of Tainter and Chang that after the injection of cocaine the power of the substance tyramine to raise the blood pressure was lost.

Tyramine is the amine obtained by decarboxylation from the amino-acid tyrosine, and its action was first investigated by Dale and Dixon about 25 years ago. They found it to be very similar in all respects to adrenaline, though having about one-twentieth the potency. The action of adrenaline in raising the blood pressure was shown by Fröhlich and Loewi to be augmented by a previous injection of cocaine, and in view of the similarity between tyramine and adrenaline it was to be expected that the action of tyramine would be similarly augmented. As already stated, Tainter and Chang made the surprising observation that a previous injection of cocaine abolished the power of tyramine to raise the blood pressure.

An analysis of the action of tyramine on the blood-vessels soon revealed a further complication of the view that tyramine and adrenaline were qualitatively similar; it was found that when the effect of tyramine was tested on perfused vessels of the cat or the dog, only traces of vasoconstriction were produced. The constrictor action observed in the body was not seen in a perfused organ under conditions in which both the constrictor action of adrenaline and the dilator action of histamine were well displayed, and a lengthy investigation was made to determine the cause of the failure to observe it. The final outcome of this investigation was surprising, for it was found that the constrictor action of tyramine on the blood-vessels depended on the presence of adrenaline in the blood. When adrenaline was added to the perfusing blood at a constant rate, so that the vessels were already partially constricted, the injection of tyramine then produced a further constriction of a size comparable with that seen in the body. Incidentally it was found that there was the same necessity for the presence of adrenaline in order that the ordinary constrictor action of ephedrine might be observed in a perfused system.

The next stage of the investigation was the discovery that the site of the action of tyramine and ephedrine differed from the site of action of adrenaline, inasmuch as tyramine and ephedrine were found to lose their effect in the body in organs to which the sympathetic fibres had degenerated. In these organs adrenaline still produces its effect and must act beyond the nerve-ending. It was evident that tyramine and ephedrine acted upon the sympathetic nerve-ending itself, and a connexion was sought between this fact and the previous observation of the part played by circulating adrenaline in increasing their action. Since the work of Loewi in 1921, the view has been gaining ground that the involuntary system of nerves act by the liberation of a chemical substance at their terminations; it is now accepted that the parasympathetic nerves liberate acetyl-choline, and it is widely believed that the sympathetic nerves liberate adrenaline or an adrenaline-like substance. Dr. Burn sought to explain his observations of the action of tyramine in terms of this theory; he argued that if the sympathetic nerve released adrenaline, there must be a store of adrenaline at the nerve-ending to be released; he supposed that in the perfused preparation this store must have been destroyed, so that tyramine acting on the nerve-ending, very much like a nerve impulse, failed to exert an effect. When the store was replenished by adding adrenaline to the circulating blood, the action of tyramine was restored. He was able to test this hypothesis by observing the effect of stimulating sympathetic nerves in a perfused preparation, and the results confirmed the hypothesis. Sympathetic stimulation in a perfused preparation produced very slight change in the calibre of the blood-vessels. When adrenaline was added to the blood and allowed to act for a period of time the effects of sympathetic stimulation were increased.

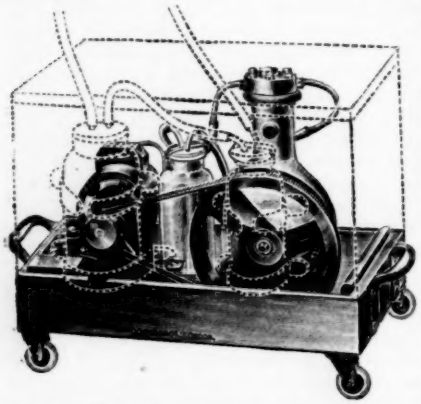
It was further found that in the presence of adrenaline, both ephedrine and sympathetic stimulation produced vasodilator effects which were not otherwise seen; while the part played by adrenaline in augmenting constrictor effects was noteworthy, the vaso-dilator effects were completely absent when there was no adrenaline in the circulation. From these observations the conclusion was drawn that the size of the response to sympathetic stimulation in the body probably depends on the amount of adrenaline in circulation. Graham has recorded that asthmatics who need much adrenaline do not respond to ephedrine, and this observation agrees very well with the suggestion that these patients contain in their blood a much smaller amount of circulating adrenaline than usual. Clinicians classify patients into those with excess of thyroid secretion, those with an average amount, and those with less than an average amount; variations are recognised again in the amount of insulin in different persons, and it is probable that there are variations in the amount of circulating adrenaline. Some evidence for this can indeed be found in cats. Hence it is

reasonable to suggest that those people who have the least amount of circulating adrenaline will be predisposed to asthma, and that asthma will occur because of the failure of their broncho-dilator nerves to do their work efficiently. Whenever the bronchioles are unduly constricted, either by vagus impulses or as the reflex effect of nasal inflammation, or because of a chronic catarrhal state of the bronchioles themselves, these patients, being unable to dilate their bronchioles, will suffer an asthmatic seizure. If the precursors of adrenaline can be identified, the formation of adrenaline may be increased in the body by the addition of one or other of these precursors to the diet.

NEW INVENTIONS

SUCTION AND AIR DELIVERY UNIT

AN efficient suction apparatus is essential in many throat investigations and operations and may be used for many operations on other parts of the body. With the apparatus here illustrated, suction is continuous and so powerful that clots of blood and tenacious mucus are quickly removed. It is possible to use it for intratracheal insufflation at the same time as suction, since the pump delivers 60 litres of air per minute. The valves in the cylinder head are designed for silence in operation and the sump carries enough oil for six months' continuous use. The unit is mounted in a robust mahogany case, fitted with rubber-tyred castors. On the side of the case two large screw-necked "Kilner" bottles are mounted. Blood and other fluids removed from the operating field by the suction plant find their way into the big bottle; the second bottle is a safety trap in the event of the first becoming full at a moment when it is inconvenient to change it. There are no resistances to regulate the speed, and in order to use the apparatus it is only necessary to connect it to the main electrical supply.

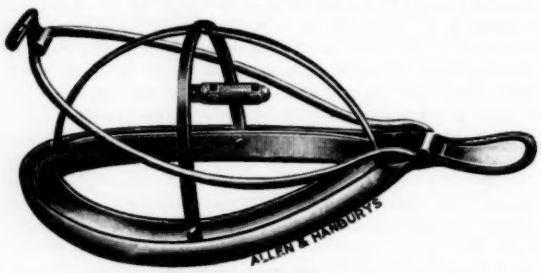


Messrs. Down Bros., of St. Thomas's-street, London, E.C., are the manufacturers.

W. M. MOLLISON, M.Chir. Camb., F.R.C.S. Eng.

CAPSULE ATTACHMENT FOR THE SCHIMMELBUSCH TYPE OF MASK

THE usual method of using chloroform capsules for women in labour has been to break a capsule at the onset of a uterine contraction, the broken capsule being then tucked between one of the struts and the gauze covering of a Schimmelbusch mask which is then applied to the patient's face. Two objections to this practice have been observed. (1) Occasionally by the time the capsule is broken and tucked inside the mask, the worst part of the pain may be over. (2) With the movements of the patient's head during a uterine contraction, the capsule is liable to fall out of its position. To obviate these difficulties and to facilitate the administration of capsules, I have devised an attachment which fits inside the Schimmelbusch mask. A small metal plate is firmly attached half-way up one of the lateral struts of the mask by means of a screw. Projecting into the mask and fixed to each end of the base plates are two spring clips into which the chloroform capsule is passed in the period between the pains. As a pain commences, the capsule is pressed by the finger against a small wedge fixed to the base plate and is readily broken. When



the capsule is spent it is pulled out and replaced by a fresh one in readiness for the next pain. The attachment has been in use in the maternity department of the North Middlesex County Hospital and has proved most satisfactory.

Messrs. Allen and Hanburys, Ltd., of Wigmore-street, London, W., are the makers.

J. MARSHALL SCOTT, M.B., B.S. Lond.

Exeter, Devon.

IMPROVED TONSIL FORCEPS

THE self-retaining hæmostatic forceps here illustrated has two separate blades (each carrying a swab-holder) which are introduced separately, the member carrying the ratchet arm before the other. When the swabs are nicely home in the tonsillar fossæ the blades are easily locked and firm continuous pressure can be exerted upon the bleeding surfaces by approximation of the ring grips, the ratchet preventing any relaxation until desired. Disengagement is easy. It is only necessary to traverse two or three notches of the ratchet to reduce the counter-pressure of the tonsillar fossæ on the swabs, and then the upper member can be withdrawn directly outwards (from the mouth) by reason of the obliquity of its engaging slot. The swab-carrying mechanism consists of a twin cylindrical corkscrew rising from a saucer-shaped base in which each swab is efficiently supported. The swabs should be of a size likely to fit the fossæ and be tightly packed. The corkscrew points should be engaged at a little distance from the twisting and tying pole of the swab. The ratchet arm is carried across the shaft of the first blade to allow for exceptionally wide throats.

Messrs. Down Bros., St. Thomas's-street, London, S.E.1, are the manufacturers.

WILLIAM T. MILTON, M.D., M.S. Lond.

REVIEWS AND NOTICES OF BOOKS

The Mode of Action of Drugs on Cells

By A. J. CLARK, B.A., M.D., F.R.C.P., F.R.S., Professor of Materia Medica in the University of Edinburgh. London: Edward Arnold and Co. 1933. Pp. 298. 18s.

THE reader of this work after studying it carefully may well come to the conclusion that he has learned little of positive value; in fact, that not very much appears to be known of the mode of action of drugs on living cells. This is exactly the purpose Prof. Clark had in mind in expanding in book form the lectures he delivered last year for the University of London; for until the spurious nature of most of the theories advanced to explain drug action is fully realised little real progress can be hoped for.

It has become the habit in recent years for workers in this field to seek explanations for their observations from the known laws of physical chemistry, and to enshroud their data in mathematical formulæ. But, as Prof. Clark proves conclusively throughout his book, the living cell is far more complex than any non-living colloidal system, and the standard of accuracy of quantitative pharmacological data is relatively so low as to render them almost unsuitable for profitable mathematical analysis. He has therefore wisely made no attempt to establish laws regarding the reactions that occur between drugs and cells, but has limited himself to examining critically in certain simple selected cases whether or not the phenomena can be explained by the application of the known laws of physical chemistry. He discusses first the living cell considered as a physico-chemical system, the intricate problems of the fixation of drugs by cells, and the kinetics of cell-drug reactions. There are excellent chapters on the variation in the response of individual members of a population to drugs and other agencies, on equilibria between drugs and cells, and on the significance of time-action curves. The theories of drug action, the mode of action of hormones and vitamins, drug antagonisms, quantitative measurements of the action of radiations on cells, and the effect of temperature on drug actions are dealt with in succeeding chapters. Numerous references are given, and the subject is dealt with in a masterly fashion.

The book should be read and digested by research workers in the whole field of biology.

Operative Surgery

By WARREN STONE BICKHAM, M.D., F.A.C.S., former Surgeon in Charge of General Surgery, Manhattan State Hospital, New York; and CALVIN MASON SMYTH, Jr., B.S., M.D., F.A.C.S., Assistant Professor of Surgery, Graduate School of Medicine, University of Pennsylvania. Vol. III. London: W. B. Saunders Company. 1933. Pp. 849. 55s.

Bickham's surgery is a monumental compilation of every operation of importance in surgery. Eight years ago when it was published it represented faithfully the position of technical surgery at that date; it was a magnificent one-man work. As the years passed revision and additions became essential, and instead of tampering with the original book Dr. C. M. Smyth, who has been entrusted with the task of bringing the work up to date, has chosen to compile a supplemental volume. He has found so much to add that this supplementary volume contains 850 pages. It is just as profusely illustrated and as well printed as its predecessors, whose character he has managed to maintain. The greatest additions have been to the surgery of the chest and colon, but all really important recent work is described, such as Henry's approach to the long bones and some of the newer methods of treating fractures. In the section on the thorax such subjects as bronchography, thoracoplasty, apicolysis, the closure of bronchial fistulæ, and lobectomy are all adequately treated. Operations on the heart, such as valvulectomy, are described, but it would have been perhaps of more use to insert a discussion on points of technique in Trendelenburg's operation now that several successful cases have been reported. In the section on the colon aseptic excision is described and new accounts of colectomy in the various regions are included. The two-stage Paul operation is still referred to as that of Mickulicz, though Paul anticipated Mickulicz's work. We could not find instructions on how to remove the stellate sympathetic ganglion from the back, and the account of the anterior operation is sketchy and inadequate, though there appear descriptions of section of the glossopharyngeal nerve intracranially, and of removal of a lobe of the brain, both of them uncommon operations and one very rare indeed. Nerve implantation into muscle and some nerve graft operations offer so little prospect of success or are so very seldom indicated that they might have been omitted. The author recommends local anæsthesia in nerve operations because of the time consumed, and a few lines later recommends the use of a tourniquet. Surely this is dangerous advice, and quite apart from the risk of applying a tourniquet for so long, the bed in which the nerve lies is likely to be subject to less subsequent change if the operation is done without tourniquet hæmostasis. An interesting technique for complete removal of the parotid gland, new to us, appears on page 270, but no indications for its use. It would seem to be unsuitable for malignant disease.

Only minor blemishes, however, can be found in an otherwise admirable volume. The author deserves congratulation on the production of a book which, as a work of reference, should be owned by every operating surgeon.

Crimes and Criminals

By WILLIAM A. WHITE, A.M., M.D., Sc.D., President of the International Committee on Mental Hygiene; Professor of Nervous and Mental Disease, George Washington University and the Naval Medical School, U.S.A. New York: Farrar and Rinehart. 1933. Pp. 276. $2.50.

Prof. White looks upon crime with the eyes of a distinguished American physician, and from the standpoint of 40 years of work as a clinical and forensic psychiatrist; his survey accordingly becomes an important contribution to the study of mental science. Years ago, he reminds us, in the Middle Ages, what we now call crimes were considered as sins against God, and were dealt with by the Church in an ecclesiastical court. Later on, as we know, when the Church came to lose much of its control over political and secular matters the ideas concerning these types of conduct also changed, and crimes were regarded as offences against the State, and were tried therefore in civil courts administered by officers appointed by the State even as they are to this day.

Now, however, crime itself is coming to be considered as an abstract concept no longer having any material existence. It is only criminals that exist. The emphasis has been shifted from the act to the actor, and the individual delinquent is himself the object of attention; instead of his acts being thought of as sins or as crimes—they are still regarded as antisocial—they are now looked upon as maladjustments at the psycho-social level. So-called criminal conduct, then, is the result of an incapacity on the part of the individual to make an adequate social adjustment, and the ideal treatment is not to punish an offender but to salvage a maladjusted individual, both for his own sake and for the sake of the society of which he is a part.

Dr. White's conclusions are derived from his extensive experience, and are founded on the examination of numerous case-histories, many of which are given in this book. He maintains that we are at the present time at a tremendously important and significant stage in the development of our ideas about mental phenomena, including those commonly called crimes, but that as in the course of evolution the accumulation of facts is followed by the formulation of laws, and although the psychological field surveyed may look "extremely complex, . . . we have a right to hope that out of this chaotic condition will issue laws that will result in such an amazing simplification that the problems of to-day will drop into common moulds, and their solution will thus be rendered infinitely easier." Dr. White's conviction is that unless the present punitive method of dealing with criminals is abandoned the chances of evolving a better method are seriously impaired.

Women in Subjection

By I. B. O'MALLEY. London: G. Duckworth and Co., Ltd. 1933. Pp. 365. 15*s*.

THIS learned and truly interesting study of the lives of women whose activities have especially counted in English social development covers a period which terminates in 1832. No notice therefore could be included of even the earliest manifestations of a wish on the part of women to enter the medical profession. But this does not imply that the book has no medical interest. On the contrary, the medical reader will see throughout in this record of the legal and economic position of women as it was at the end of the eighteenth century how often an ignorance of physiology was at the bottom of the abuses, and will recognise how the movement for the improvement of women's position, that marked the first third of the nineteenth century, synchronised with the developments in scientific knowledge.

The book opens with a review of the measures of legislation and the prevailing customs relating to women from our early social history until the end of the eighteenth century, when Mary Wollstonecraft wrote the Vindication of the Rights of Women. Mrs. O'Malley here shows that, whatever the legal privileges of women might be worth, they were in practice counter-weighted with heavy disadvantages; while, where the actions of women appeared to contest a subjection to male masters, these actions were treated as constituting a revolt against admitted social laws and were punished with particular severity, penalties current in dealing with the rebellion of slaves being imposed. On the whole, all offences seem to have been regarded up to this date as worse when perpetrated by women. As the demands of developing social life became more complicated, while agricultural and industrial processes grew more specialised, the subordination of women was aggravated by the number of difficult and unpleasant tasks that fell to them as their share of the increasing demands on brains and industry, so that the handicap of unequal education became obvious. The relative education of men and women is, at this point in the book, the subject of a charming essay, in which the curious fact is brought out that towards the end of the eighteenth century—the period of "sensibility"—"it was not enough for women to be beautiful animals, it was hardly desired that they should be strong ones; they must have mental qualities, but only those which would stimulate the instincts and soothe the feelings of men." As Mrs. O'Malley writes, her assertions and deductions being supported here (as elsewhere in the book) by carefully documented references, "it was difficult to superadd the chief human qualities on a foundation of weakness and suddenly to turn the Circassian slave into a helpmate."

The vindication of the position of women began in the family, for the law from the dawn of history considered wives as property and gave mothers no rights in regard to their children, while the conventions of society reflected the law. Yet every man who turned to his wife for support, and every child who depended on the judgment of a mother weakened these conventions. The claim for a fairer position was made during the eighteenth century by many writers, men and women, but professional authorship was difficult for women. Here Mrs. O'Malley attributes considerable influence to Mrs. Elizabeth Montagu (1720–1800), who led the blue stocking movement, to Fanny Burney, Hannah More, Mrs. Trimmer, and Mrs. Barbauld, but Mary Wollstonecraft was the great protagonist. Mrs. O'Malley says of her in an eloquent biographical chapter, "the intensity of her emotion and the courage of her thought had given a special value to her experience: her short years had been full of colour and light, as well as of pain. In her struggles she had indeed hurt herself, but she had plucked a brand from heaven for the enlightenment of other women; to the women's movement she was a kind of Prometheus."

A second part of the book, starting with the death of Mary Wollstonecraft, describes the labours of the women philanthropists, the work of Elizabeth Fry, the progress of education, and the arrival of numerous successful women scholars and writers. These later chapters comprise a closely informed critique of Jane Austen, and show how the progress of education and its influence upon women are displayed in the work of Mary Somerville, Maria Edgworth, Mrs. Anne Radcliffe, Harriet Martineau, Mrs. Jameson, and other well-known thinkers and writers.

Mrs. O'Malley has written with accuracy and fairness the story of a social revolution which deserves the attention of medicine alike for its immediate results and its far-reaching influences.

IN the review of Rose and Carless' Manual of Surgery in THE LANCET last week, it should have been stated that the book is now being issued in two different forms—namely, in one and in two volumes. The price (30*s*.) is the same for both.

HOSPITAL AIR PAGEANTS.—The British Hospitals Air Pageant tour concluded with a display at Greenwich on Sunday. The tour began in April, and 178 towns in England, Scotland, and Wales have been visited. There have been 750,000 spectators, and over £7000 has been realised for the hospitals.

THE LANCET

LONDON: SATURDAY, OCTOBER 14, 1933

DIET AND WEIGHT

IN these days of "slimming" there is no more popular subject of discussion amongst the laity than the reduction of weight, and each victim of obesity, real or imaginary, has his (or more often her) panacea to offer. In this fashion plays a great part. At one time the system of the late Mr. BANTING is all the vogue; at another, some more special "cure," such as the "potato" or "milk" plan, or the "dry" diet. Physical methods are popular, probably because they involve less self-denial than restriction of diet, and accordingly we find that the advocates of Turkish baths, massage, or the wearing of india-rubber corsets always have a large following. And yet, as Prof. E. C. DODDS points out in an address summarised in our last issue, the problem of weight reduction is essentially a mathematical one, the principles of which are perfectly well understood by physiologists. The amount of energy, measured in calories, required to run the bodily machine under different conditions is definitely known, and any habitual intake in excess of this results in the gradual accumulation of fat. The obese person, therefore, who complains that he continues to gain weight even although he is a small eater is, as Prof. DODDS says, usually self-deceived.

The clinician, however, who has to deal with individual patients and not with mere bodily machines, may be excused if he thinks that the problem of obesity and its treatment is not quite so simple as this statement of it would imply. He has a shrewd suspicion that people vary very much in their capacity for storing fat, apart altogether from the question of how much they eat, even although he cannot explain such individual differences. It may perhaps be a question of metabolic peculiarity. Some persons seem to be more economical machines than others; they do, as it were, more "miles to the gallon," and we know that this greater economy can to some extent be acquired by training and is also developed spontaneously in diabetes. Further, the influence of the endocrine glands cannot be left out of consideration, although Prof. DODDS, deliberately simplifying the issues, hardly touched upon it. The most troublesome cases of obesity which the clinician has to deal with are those met with in children and in young women, and in these it is certainly not a mere question of diet. In these endogenous cases, as they are called, the fault most probably lies in some endocrine defect or imbalance, although its exact nature is obscure. It is not a mere deficiency of thyroid secretion, for they do not respond very well to treatment by thyroid; possibly it is the anterior pituitary or the internal secretions of the reproductive system that are at fault, but that the problem is in them not a purely mathematical one the therapist has no doubt.

Nor can mathematical considerations alone be taken into account in dealing with the "exogenous" cases which, of course, include by far the larger number of obese patients. The form in which the energy is consumed has to be reckoned with. A given intake of calories in the form of protein, for instance, is much less likely to lead to fat deposition than an equivalent intake in the form of carbohydrate. In this connexion we should like to hear the views of other physiologists on Prof. DODDS's statement as to the fattening effect of alcohol. Is it true that a "double whisky" is only to be balanced by playing a full half-hour of squash? Alcohol, of course, is oxidised in the body and serves as a source of heat and energy, but, unless it is taken in a very dilute form and the intake spread over some time, part of it easily escapes oxidation altogether. Further, by dilating surface blood-vessels, may it not actually cause more heat to be lost to the body than it supplies?

We raise these questions not to impugn in any degree Prof. DODDS's main contention, but only to enter a caveat against an impression which his remarks may have left that *any* form of obesity can be reduced by suitable application of the principles he outlines. This is quite true of the exogenous obesity commonly met with in middle-aged persons, but it is certainly not true of the endogenous cases. About these there is still an element of obscurity which it is well to recognise.

PROGRESSIVE HYPERPLASIAS OF THE BLOOD-FORMING ORGANS

AMONG diseases of the blood-forming organs which are characterised by progressive cell proliferation, the leukæmias, plasma cell myelomas, Hodgkin's lymphogranulomatosis, and Gaucher's splenomegaly are the best known. Although their clinical course and macroscopic structure may at times be confused, a final differential diagnosis can be made on the basis of well-marked microscopic structures, and we have little difficulty now in defining them. That this list does not by any means exhaust the possible variations in histological appearance which progressively hyperplastic lymphoid tissue and bone-marrow are able to provide, is shown by numerous case reports in various journals on the Continent, in this country, and in America of unrecognised conditions which defy classification, as well as by attempts to frame a comprehensive classification which will include all newly described varieties. The prognosis of most of the newer diseases appears to be hopeless, like that of most of the older group, for, as a rule, accounts include autopsy findings. Here and there, however, an individual recovers after splenectomy, and in all probability many cases that survive for any length of time after excision of lymphatic glands for diagnosis fail to be recorded because the patients disappear, and too little is known about their condition to

make it worth while describing it. If only for the immediate purpose of ascertaining the prognosis these obscure hyperplasias deserve study.

The difficulties with which the histologist is faced in attempting to interpret the microscopic appearances can hardly be realised by those who have not been in a position of having to report on these unusual conditions. The whole architecture of the hæmopoietic organs becomes changed and the cells are so varied in shape and size, and may differ so greatly from normal adult cells, that it is often impossible to say whence they are derived. Consequently many cases have been labelled vaguely as endothelioma without justification. More recently the term reticuloendotheliosis, favoured by some, has come to the rescue, while others, following E. LETTERER,[1] consider reticulosis to be a more logical name, because the basic cell of the blood-forming tissue is a reticulum cell. There is a danger that many will become labelled only by the authors' names, as in Gaucher's splenomegaly, Christian syndrome, and Niemann-Pick disease. According to a suggestion of W. G. MACCALLUM [2] the proper solution would be a classification based on normal histology. For every type of normal cell, if we knew them all, it might be possible to find a corresponding progressive hyperplasia in the same way that malignant tumours are differentiated according to their origin. A similar suggestion was put forward by B. D. PULLINGER [3] in an attempt to elucidate the histogenesis of lymphadenoma and atypical examples of this condition. That knowledge of the normal development and adult histology of the hæmopoietic organs is sufficiently well advanced to enable such a course to be pursued is evident from the work of A. MAXIMOW [4] and his collaborators, who have assembled the facts established by the research of many others and have added many original observations of their own. In the September issue of the *Journal of Pathology and Bacteriology* Dr. J. M. ROSS reports two unusual cases which fall into the class of hyperplasias under discussion, and she proposes a scheme of classification based on MAXIMOW'S views, of which she gives a short summary. The progressive hyperplasias of the blood-forming organs are divided into two main groups, the one including those cases in which no disturbance of metabolism is known to exist, and the other in which metabolic disturbances can be demonstrated. In this second group we meet with Gaucher's disease among lipoid or storage histiocytoses. Subdivisions in the first group are made according to the type of cell which has been proliferating and to its state of differentiation. For example, the undifferentiated reticulum cell is capable of giving rise to lymphoid follicles, fibril-bearing cells, histiocytes, myeloid cells, giant cells, and mixtures of any or all of these. As an example of reticulum cells which have already specialised and then proliferated, we find sinus lining cells (formerly known as endothelium) and it is suggested that these give rise to both leukæmic and aleukæmic hyperplasia, the former being a monocyte leukæmia. In the same specialised subgroup one supposes that lymphoid and myelogenous leukæmia might be included, though Ross does not specifically say this. It would, however, be logical, for although the granular and non-granular leucocytes are parenchymatous elements, they are ultimately derived from reticulum. From cases reported by other authors Ross is able to give instances from the literature of most of these potential hyperplasias. Two of her own cases correspond closely with others that have been recorded. The first is a lymphoid hyperplasia from follicular reticulum and the second a fibrillary reticulosis. In considering lymphadenoma as an example of unrestricted differentiation, she is in agreement with PULLINGER.[3] Ross's article is profusely and clearly illustrated by macroscopic and microscopic preparations, so that all who are specially concerned with this obscure branch of pathology will find it profitable and easy to compare their own examples with hers, and also to test the usefulness of the scheme.

It is worthy of note that the authors quoted by Ross have not recorded second examples of their cases, and therefore it seems probable that the individual conditions are rare, although the group as a whole is not. For this reason complete records of any examples of unusual hyperplasia of lymphoid and myeloid tissue are valuable and will enable some sort of order to be reached when a sufficient number has been collected. A final classification must wait for knowledge of ætiology, and when we remember the depths of our ignorance of the normal physiology of this system it seems that we have a long way to go. Equally regrettable is the fact that so far no experimental animal has been found whose tissues can be made to produce anything remotely resembling the hyperplasias of human blood-forming organs. Fowl leukæmia and mouse lymphoma are clues which have probably not yet been thoroughly followed up. When they are, the experimental pathologists may well be thankful for the clearing of the ground which work on normal and pathological reticulum is gradually effecting.

[1] Frankfurt. Zeits. f. Path., 1924, xxx., 377.
[2] Text-book of Pathology, London, 1932, p. 849.
[3] Rose Research on Lymphadenoma, London, 1932.
[4] Handbuch d. mikr. Anat. d. Mensch., 1927, Bd. II., Berlin; also Maximow and Bloom: Text-book of Histology, Philadelphia and London, 1930.

UNTRACEABLE

WE published last week at the request of the Registrar of the General Medical Council a list of the medical practitioners whose names at the present time appear in the Medical Register, but who have failed to reply to official inquiries as to the accuracy of their addresses. It is the duty of the Registrar, and of the Registrar for Scotland, to keep the respective Registers correct, to erase the names of all persons on the Register as they die, and from time to time to make the necessary alterations in the addresses or qualification of the persons included in the list. To effect this the Medical Act empowers the officers of the General Medical Council to write to any persons

whose names appear in the Register, according to the addresses there given, in order to ascertain whether he or she has ceased to practise or has made any change in residence. If within six months no answer is returned to the letter of inquiry, it becomes lawful to erase the practitioner's name from the Register; but it is stated in the Act that the name can be replaced on a satisfactory explanation of the circumstances to the Council. The list published in our columns included 269 names of persons who have not replied to the last letter of inquiry, and the Registrar of the General Medical Council warns anyone who finds his or her name included in the list that communication should be made immediately with the office of the Council at 44, Hallam-street, London, W.1, or the name will be omitted from the next issue of the Register.

A rapid analysis of the names published last week discloses the fact that of these men and women 80 are resident abroad, 15 give their address only under the denomination of some public service to which they belong, or at a club or bank, 78 are resident in Ireland, and 11 in Scotland, while a few names seem to have already disappeared, having, presumably, failed to comply with previous warnings from the Registrar. In this last case relatives or executors have failed to give information which might have been expected from them. The balance of the names are those of practitioners who were resident in England on the last occasion when an official address was furnished. That the figures under which the untraceables can be classified bear no logical relation to the general make-up of the Register is obvious. A large fraction of the practitioners are resident abroad, while the Irish claim a place on the list out of all proportion to their numerical appearance on the Register; also a certain number of persons could have been placed in either category as Irish or living abroad. It is noticeable also that the proportion of women compared with their numbers in the complete Register is high, and many of these are practising abroad to judge by their present official addresses. From these things it is clear that practitioners resident out of England and Scotland, and especially those resident in the Dependencies and Colonies, do not consider that the presence or absence of their names on the Register is of any importance either to themselves or others.

This is an attitude which is embarrassing to the Registrar whose official responsibility it is to maintain the Medical Register as a complete and accurate record of legal practitioners, and also an erroneous view of the situation. Removal from the Register, which will follow on the failure to maintain a correct entry in its pages, is prejudicial to the individual, the medical profession, and the public. With regard to the personal responsibility for maintaining a name on the Register in such a way that its bearer can be quickly identified, it should be remembered that removal of the name may at any moment, and at any place, subject the practitioner to serious inconvenience as an applicant for a post, as a reference for others who desire professional assistance, as a witness in a law court or as the signer of death certificates. In none of these circumstances is it certain that the practitioner would be the only sufferer, as the cause of public justice may be impeded by the inability to prove the possession of registered qualifications. And there is a further position to be considered—namely, the possibility that the wrong entry of a name in the Register may give opportunity to the impersonator. That this is not an imaginary position has been proved by several striking instances, and one such may be recalled because of its sensational circumstances and because it led to a direct warning to practitioners from Sir DONALD MACALISTER, then President of the General Medical Council. At the Liverpool assizes in the autumn of 1917, a person, oddly named VIRTUE, was enabled successfully to impersonate a practitioner whose name was appearing on the Register though he had for some time been dead, no notice having been given of the event. VIRTUE practised medicine for some years until, in connexion with the recruiting work of the war, official vigilance was awakened. He was arrested, but committed suicide a few days before he came up for trial. No amount of zeal on the part of the Registrar will prevent fraud, so long as many of the medical profession neglect to notify the central bureau of their change of address.

COLOUR VISION IN THE NAVY

THE Committee on the Physiology of Vision of the Medical Research Council, of which Sir JOHN PARSONS, F.R.S., is the chairman, has just issued a third report (Special Report Series No. 185) on problems of colour vision. Their previous reports on this subject dealt mainly with the theoretical and biographical aspects of the subject. This one is essentially a practical study, entitled Colour Vision Requirements in the Royal Navy. The important conclusion reached is that the existing system of testing colour vision has failed to exclude seriously defective persons from the Navy. It is recommended that the final examination of the colour vision of candidates for entry should be undertaken at the training establishments by ophthalmic surgeons equipped with adequate apparatus, all previous examinations being regarded as provisional. The official instructions with regard to the method of using colour vision tests are held to call for drastic revision and amplification, and it is emphasised that no one technical test is infallible. A further recommendation is that the use of colour as a sole distinguishing feature of otherwise similar objects should be reduced to a minimum.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—The annual general meeting of this society will be held to-day, Friday, at 8.45 P.M., at the Miller General Hospital, Greenwich, S.E. The next meeting will take place on Nov. 10th, when Mr. W. E. Tucker will speak on athletic injuries and manipulation. On Dec. 8th Sir Charles Gordon-Watson will speak on difficulties and dangers in rectal and colon surgery. Speakers at meetings during 1934 include Dr. William Smith, Mr. C. Hamblen Thomas, and Dr. H. Letheby Tidy. The secretary is Dr. C. J. B. Buchan, 267, Baring-road, Grove Park, London, S.E.12.

ANNOTATIONS

THE PROPHYLACTIC USE OF ANTI-POLIOMYELITIS SERUM

THE blood-serum of convalescent patients or of persons who have acquired an immunity as the result of a past attack has been used of late years as a means of protection against several diseases. Its most extensive use has been for protecting children against measles, and a similar procedure has been given a trial on a fairly large scale in the United States for the prevention of poliomyelitis. Experimental work [1-3] has shown that the so-called "immune serum" of persons who have recovered from this disease will prevent the development of poliomyelitis in monkeys, which are inoculated in the brain with virus. This result was obtained not only when the serum and virus were mixed before inoculation but also when the serum was given intrathecally 18 to 24 hours after, or as long as four days before the virus was introduced into the brain. It has also been found that the serum of some adults who had never, as far as could be ascertained, been infected with poliomyelitis can give protection, but this effect is uncertain and may depend on these people having passed through an epidemic and so acquired immunity without an overt attack.

During epidemics in the United States considerable numbers of children have been given intramuscularly a dose of 30 c.cm. of the blood or serum of their parents with a view to prophylaxis, and the results have been apparently very satisfactory, but the relatively small number of cases of poliomyelitis in the general population and their capricious distribution make it very difficult to draw any sound conclusions from these attempts to check the epidemic spread. The pooled immune serum of persons who have passed through an attack of poliomyelitis has been used of course also—and much more widely—for the treatment of early cases, before the onset of paralysis, and it is generally held that the results justify its further trial. Details of the technique employed with apparent success in Melbourne have been given in our columns [4] and, as we announced on July 8th, a small amount of serum has been prepared for issue at the Lister Institute, Elstree, with the coöperation of the Medical Research Council and the public health department of the London County Council. Outfits each containing enough serum for the treatment of one case can be obtained without charge from the medical superintendent, Western Hospital, Seagrave-road, Fulham, London, S.W.6, on condition that a full account of the case and the results of treatment are furnished subsequently. This supply is intended solely for the treatment of patients in the preparalytic stage of the illness. The difficulty of obtaining adequate quantities of human immune serum at the present time in this country make it impracticable to permit its employment for prophylaxis. With these considerations in view an antiserum has been prepared from the horse at the serum department of the Lister Institute, which possesses a higher degree of potency when tested in monkeys than an average pooled human immune serum. An intramuscular dose of 5 c.cm. is recommended for the prophylaxis of those exposed to infection, especially for "contacts" during an epidemic. It is now procurable through Messrs. Allen and Hanburys. If an outbreak occurred in a boarding school and—in accordance with the advice given by the Ministry of Health—the school was not closed, the prophylactic use of such serum might reasonably be considered. The Memorandum on Acute Poliomyelitis, recently issued by the Ministry,[2] contains much useful information on this disease and its treatment, but the prophylactic use of antiserum is not mentioned, and indeed the serum was not then available. A brief account of prophylaxis by means of antisera is given in the monograph on poliomyelitis, published last year on behalf of the International Committee for the Study of Infantile Paralysis organised by Mr. Jeremiah Milbank.[3]

[1] Flexner, S.: Brit. Med. Jour., 1933, i., 132.
[2] Ministry of Health Mem. on Acute Poliomyelitis, 166/Med., November, 1932.
[3] Poliomyelitis. Baltimore: Williams and Wilkins Co. 1932. See THE LANCET, 1932, ii., 1436.
[4] THE LANCET, 1932, i., 469, 527.

THE NEED FOR A STUDY OF THE HISTORY OF MEDICINE

Sir StClair Thomson chose this title for a brief and eloquent presidential address with which he opened the new session of the section of the history of medicine at the Royal Society of Medicine last Wednesday. He related that a hundred years ago almost every university in Germany had its professor of the history of medicine, but the phenomenal advance of scientific medicine, and a reaction from centuries of speculation had led to a neglect of the subject, and one chair after another had died out. He declared that it was no wonder that the strong wine of rapid progress had gone to the heads of those who did not remind themselves of the inevitability of gradualness. But the old form of history is by no means dead or useless. Dr. Singer, a professional exponent of the subject in this country, urged the continued valuable work of the amateur, using the term in its most honourable sense. Anecdote and biography, though they might be unworthy of the name of science, have invaluable lessons to teach the young doctor of the present day; and, said Sir StClair, there is little fear of the art becoming tainted with trade if men study the Hippocratic tradition. Those Georgian practitioners who devoted themselves to the classics had a culture, an imagination, an idealism, and a consideration for the individual which their too-scientific successors seem to have lost. Scientific medicine Sir StClair held to have led to an exaggeration of that which is physically demonstrative, so that the physician plucks out fragments of the sick man's anatomy, but ceases to lay a friendly hand on his patient's arm to estimate his well-being. As in other walks of life, man is becoming the slave of the machine—card-index minded. The president humorously affirmed that practitioners no longer brought to him a suffering fellow-being for consultation, but a dossier with a robot in tow. Truly had it been said, "L'amour de la médecine fait le savant; l'amour du malade fait le médecin." It was only the exaggeration of the scientific method that he deplored, and no one was more willing than himself to acknowledge its success and its value. But as a result of that exaggeration he could see on the horizon—in the zigzag evolution of this unintelligible world—the reaction towards a half-baked appreciation of philosophy and psychology within the ranks of medicine, and a monstrous regiment of faith-healers outside them. The history of medicine is the great factor opposing both extremes. It is far more than the history of medicine; it is medicine itself, and the most perfect method of approach to the scientific problems of to-day. Those

who become historically minded absorb unconsciously from these proud records a high standard of ethics and a respect for the antiquity of their calling. Physics and chemistry, the deities of the scientific physician, are but children compared with medicine, whose records go back to 2500 B.C. Before the Christian era doctors prescribed assafœtida, henbane, and myrrh; the laryngologist of that day used liquorice in his lozenges; for 3000 years man has emptied his colon with castor oil and aloes, coughed up his catarrh with squills, balanced his acidity with bicarbonate of soda, and eased his pains with opium. A study of the history of medicine, Sir StClair concluded, will imbue us with moderation in esteeming the value of our work, fortify our independence of judgment, stimulate our general culture, and diminish that inferiority complex from which the modern physician suffers as the result of the poverty of scientific medicine. It will revive the kinship of our art with literature, music, poetry, and the adornments of life; it will help us to get rid of the junk of opinion that is so apt to over-lie knowledge, and teach us the art of guiding men.

Sir StClair Thomson's words stimulated an interesting debate, an apposite story being one of Dr. Dan Mackenzie, who said that a newly qualified young man, "regarding him the while with the dispassionate interest of a geologist scrutinising a fossil," had asked him if there was anything in medicine worth speaking of ten years ago. As Dr. Mackenzie observed, no school of medicine ought to turn out graduates of such a tragic kind. Dr. Charles Singer, in reference to the disappearance of professorial chairs on the subject, attributed the fact to the non-scientific attitude of the professors, and Dr. Arnold Chaplin pointed out that the scientific study of history began with Voltaire, whose record of Louis XIV. opened with the declaration that the author was not going to be concerned with "how kings aped fools or dallied with their mistresses, but rather how they came to be powers in the land." Dr. Herbert Spencer quoted the words of a Latin author of about A.D. 1500 who declared that history was not only useful but necessary for mortals; that just as the body is nourished by agriculture, so the mind is nourished by memories, and as the mind is nobler than the body so does the study of history surpass all other studies. Dr. Millais Culpin affirmed that if he had only one official lecture to give he would choose history to occupy that time.

With such proud declarations of faith, the Historical Section of the Society has started a new year, during which it will play its part in keeping alive great traditions and insuring that, in the words of Andrew Lang, "the little present is not allowed wholly to elbow out the great past."

ENCEPHALOMYELITIS IN DOGS

THERE seems to be some confusion about the way in which distemper may affect the central nervous system in dogs. According to Laidlaw [1] there is a tendency to attribute all lesions of the nervous system in dogs, except rabies, to distemper infection. This perhaps explains why a recent account of encephalomyelitis in a series of dogs by G. Marinesco, State Draganesco, and G. Stroesco [2] appears under the label of distemper, although the condition they describe closely resembles the disease reported in a series of cases by J. R. Perdrau and L. P. Pugh [3] several years ago and distinguished by them for several good reasons from distemper infection. The main histological features of the disease as described by Marinesco and his co-workers are perivascular cuffing by lymphocytes and plasma cells, diffuse zones of infiltration by similar cells beneath the meninges and ependyma in many places combined with a patchy demyelination throughout the central nervous system. In the brain the changes are principally found in the central and basal parts with a predilection for the substantia nigra. The grey matter on the whole seems to be less affected than the white, but the hippocampus, Ammon's horn, and the walls of the third ventricle are almost constantly and severely affected. The disease therefore, when compared with disease in man, bears a resemblance on the one hand to encephalitis lethargica, and on the other to the acute disseminated encephalomyelitis that occasionally follows in the train of the acute specific fevers and vaccination. The disease described by Perdrau and Pugh was histologically similar, but differed a little in anatomical distribution. Thus they described the severest lesions in the pons, medulla, and cerebellar peduncles, and found no special tendency towards inflammation in the neighbourhood of the ependyma. Finally they did not observe any inclusion bodies, whereas the Bucharest workers have demonstrated and figured intranuclear inclusions in both neurones and neuroglia cells. Perdrau and Pugh made the interesting suggestion that this form of encephalomyelitis in dogs perhaps bears the same kind of relationship to distemper as the acute disseminated encephalomyelitis in man bears to vaccination and the acute specific fevers. That it is not an essential manifestation of distemper itself is suggested by the failure of Dunkin and Laidlaw (1926) to demonstrate lesions of the same kind as those described here in fatal cases of experimental distemper.

[1] Medical Research Council's System of Bacteriology, London, 1930, vol. vii., p. 236.
[2] Ann. de l'Inst. Pasteur, August, 1933, p. 215.
[3] Jour. Path. and Bact., 1930, xxxiii., 79.

ANTISEPSIS IN MIDWIFERY

IT has been shown that in this country the large majority of maternal deaths from sepsis are due to *Streptococcus pyogenes*—the "hæmolytic streptococcus." This organism is present in the vagina at the onset of labour in 2 to 3 per cent. of women, but in these circumstances it is usually innocuous and there is no doubt that when it causes illness it has almost always been introduced from outside at a later stage. The Departmental Committee on Maternal Mortality found that 40 to 50 per cent. of the deaths from sepsis which they investigated were a sequel to spontaneous labour or to a delivery assisted by some minor obstetric operation. These facts suggest either that the methods of antisepsis generally employed in midwifery are improperly applied or else that they cannot be relied on to cope with this particular organism. The criticism has been made that the antiseptic ritual is founded on unsuitable experiments, concerned with the killing of *Bacillus typhosus* under conditions unrelated to those of maternity work, and Dr. Leonard Colebrook and Mr. W. R. Maxted [1] have therefore gone over the ground again with the direct object of finding ways of eliminating *S. pyogenes* from the skin and mucous membranes.

Streptococci, they find, are not normally present on the skin, and if the fingers are artificially infected from cultures or pus they become free from these organisms again within a few hours. No support, however, was obtained for the common assumption that *S. pyogenes* is completely removed or killed by washing with soap and water for two or three minutes

[1] Jour. Obst. and Gyn. Brit. Emp., October, 1933, p. 966.

and then soaking the hands in a mild antiseptic for about three minutes. These measures, even when conscientiously carried out, were found to offer no margin of safety. Streptococci were not always removed, and the normal organisms of the skin—staphylococci and diphtheroids—were present in large numbers after the treatment. Washing by itself did not get rid of the streptococci from the fingers, and only slightly reduced the number of staphylococci and diphtheroids; nevertheless, it is held to be very important, not only for its mechanical effect, but because soap solutions have a direct lethal action on many pathogenic organisms, including *S. pyogenes*. Antiseptic soaps were found to be the most efficient, while ordinary yellow household soap was better than refined toilet soap; and it is suggested that washing in a small quantity of water may be more effective than washing in running water. Most of the various antiseptics which Colebrook and Maxted tested by soaking infected hands in the solution, without previous washing, in the strengths usually recommended, did not altogether remove streptococci which had previously dried on the skin. Those which came best out of this particular test were a 2 per cent. watery solution of iodine with 3 to 4 per cent. potassium iodide, and a 30 per cent. paste of Dettol. Of these iodine is the better, but it is unpleasant to use and sometimes causes irritation; whereas dettol causes no irritation, even when used at full strength, and is said to have the advantage that when dried on the skin it confers protection for several hours against contamination by hæmolytic streptococci. No treatment, however, can remove all the organisms that ordinarily live on the skin, and sterility can be attained only with gloves. Colebrook and Maxted's recommendation is that one should wash the hands for two minutes in one and a half pints of water, with yellow bar soap, dry them, put on clean dry unsterilised gloves, and sterilise these on the hands by washing, followed by soaking in a solution of iodine or dettol, or by the application of dettol paste. This method seems satisfactory if the fingers only are to be used; but it does not permit of sterilisation of the glove at the wrist, and we doubt whether it would be safe for any operation in which the hand is introduced into the vagina, or for manipulations in which the upper part of the glove is allowed to touch the vulva or sterile towels.

The principles used in sterilisation of the hands may be applied to the vulva: it may be washed with soap and water, dried, and coated with 30 per cent. dettol cream. But the vagina is a more difficult problem. American obstetricians have advocated treatment of the vaginal wall with antiseptics such as Mercurochrome, and claim success on the indirect evidence of morbidity returns. On the other hand, the low sepsis-rate in some hospitals, such as the East End Maternity Hospital in London, where no attempt is made to sterilise the vagina, indicates that this may be unnecessary. Colebrook and Maxted tried to find out whether the vaginal wall can in fact be sterilised and report that in none of five patients treated by repeated application of mercurochrome, crystal violet and brilliant green, or dettol, was it freed from organisms. In four of the five, the original organisms—species believed to be of little or no pathogenicity—were replaced or joined after some hours by other and more virulent species, and the conclusion is reached that antiseptic treatment of the vagina is likely to do harm, except as an immediate precedent to operative interference.

The obstetrician may perhaps feel that laboratory experiments in which the hands are artificially infected with hæmolytic streptococci have not much bearing on practice. Some investigators believe that droplet infection from the throat is the most important source of streptococci; others claim that masks worn by the attendants have failed to protect the patient. Colebrook and Maxted think that contamination of the hands by coughing or from handkerchiefs may be the means whereby the hæmolytic streptococci often present in the respiratory tract are commonly transferred to the genital passages. Be that as it may, all will agree that close attention must be given to the efficiency of any method of sterilisation employed. A false sense of security is at all costs to be avoided.

DEXTROSE GIVEN BY THE RECTUM

ATTEMPTS to decide whether dextrose is absorbed from the rectum seem to have an evergreen interest. The experiments reported by W. S. Collens and L. C. Boas [1] indicate that, in their cases at least, absorption took place. Seven diabetic and 24 non-diabetic patients in a hospital ward took part in this study; in the non-diabetic group none was chosen in whom any metabolic disorder was suspected, and in no case in the whole series was there any complicating disorder of the rectum. The experiments took place in the morning when the patient was fasting, 14 hours after a previous meal. An enema was given and a sample of blood was taken; an hour after the enema, dextrose was instilled into the rectum in amounts which ranged from 20 to 100 g., in various concentrations. Specimens of blood were taken at intervals of 30, 60, and 120 minutes after the instillation, and the blood-sugar was estimated. At the end of two hours a water enema was given and the evacuation collected; the returns were analysed for the dextrose content by the quantitative method of Benedict. In the non-diabetic group of patients there was a rise in blood-sugar ranging from 16 to 25 per cent., and the amount of dextrose recovered from the evacuation varied between 10 and 27 per cent. at the end of two hours. The observers take this as indicating that as much as 90 per cent. of the dextrose administered by the rectum was absorbed. Results were comparable in the diabetic group, except that two patients out of the seven showed no rise in blood-sugar, and one showed a 20 per cent. drop; the four remaining diabetics showed a rise of 9, 21, 38, and 50 per cent. in the blood-sugar, and in all patients in this group analysis of the rectal return provided evidence of absorption. Even in the case of the patient who showed a fall in blood-sugar, the amount of dextrose recovered from the rectum after two hours was only 14 per cent. of the amount administered. Collens and Boas were not particularly interested in the rate of absorption, but were concerned to decide whether a patient who could not be given dextrose by mouth or intravenously would benefit by rectal injection. They claim that they have shown that dextrose given in this way is not only absorbed but utilised. We quote Pressman's suggestion that, in this type of experiment, dextrose not returned in the final evacuation may have undergone bacterial fermentation; he maintains that about 35 per cent. of it can disappear by fermentation with fæces in five hours. Collens and Boas, however, think that this explanation cannot account for the disappearance of as much as 90 per cent. in two hours, as found in their investigation. Moreover, in one of their cases the dextrose enema was evacuated by the patient at the end of

[1] Arch. Internal Med., August, 1933, p. 317.

one hour, and 68 per cent. of the dextrose had already disappeared. As additional evidence that dextrose is absorbed from the rectum in significant quantities, they mention the case of a diabetic patient in a state of hypoglycæmia due to an overdose of insulin; the administration of 25 g. of dextrose by rectum brought about immediate improvement. These observations seem to justify their statement that "although dextrose does not pass through the membrane of the colon as rapidly as through the small intestine, a sufficient amount is absorbed to warrant recognition of this method as an acceptable therapeutic procedure."

VETERINARY RESEARCH IN SOUTHERN RHODESIA

Foot-and-mouth disease caused much loss in Southern Rhodesia during 1932. Mr. D. A. Laurence, the director of veterinary research, in his report [1] for that year, notes that the Rhodesian strain of virus differs from the European strains, particularly in its low degree of transmissibility under natural and experimental conditions. In the field the disease spreads very slowly through infected herds and outbreaks tend to smoulder on for many months. This factor has proved a great obstacle in the control of the disease, and an attempt has even been made to speed up the course of epidemics by injecting intranasally whole herds with virus-containing blood. The results of this procedure is said to have proved satisfactory once a strain of virus producing a typical onset of disease had been found. Considerable difficulty has been experienced in adapting the Rhodesian strain of virus to the guinea-pig host, a necessary preliminary to the typing of the virus. Highly infective blood virus proved practically innocuous to small laboratory animals, but an extract of vesicular epithelium cells produced a typical infection. According to workers at the laboratories of the Imperial Bureau of Animal Industry at Weybridge, 32 "passages" were necessary before "fixation" of the virus for guinea-pigs was effected. Another interesting feature of the virus was indicated by a cow which was twice inoculated with virus without showing any symptoms of disease. The calf which she was suckling was not affected either, but two pigs fed with a limited quantity of her milk both developed typical symptoms of infection. Guinea-pigs artificially infected tend to show marked variations of symptoms. One showed a thermal reaction followed by lesions, another lesions followed by a thermal reaction, another a thermal reaction but no lesions, and yet another a thermal reaction with lesions only appearing after an interval of some days. Variations of this type obviously complicate field diagnosis. Numerous reports of outbreaks of foot-and-mouth disease amongst natives have come to hand, but the symptomatology of these cases does not correspond with that of known cases of this disease in the human subject. No definite confirmed case can be cited.

Investigations into other infections are also described in Laurence's report. Little work has been done upon the *Brucella abortus* infection of cattle beyond routine serum testing and the issue of vaccine. Of 600 sera tested 100 reacted positively. Whether this high ratio is due to the natural spread of infection or to spread by the use of a living vaccine is not discussed, but it is interesting to note that in the last two years 13,000 doses of vaccine have been issued. Difficulty has been encountered in the protection of cattle against trypanosome infection. Of recent years the use of injections of potassium antimony tartrate has been adopted. No attempt is made to sterilise the blood, a few trypanosomes remaining in the circulation, and a state of "premunity" is achieved. In certain districts this treatment has failed to reduce the mortality amongst cattle. Investigation has shown that cattle in these parts were suffering severely from poverty and overwork, and it is concluded that these factors and not trypanosomiasis were the cause of the high mortality. Investigations on poultry diseases have been confined mainly to the improvement of diagnostic methods. In connexion with bacillary white diarrhœa and fowl typhoid, caused by *Bacterium gallinarum* and *Bacterium pullorum* respectively, agglutination tests using blood-serum are being replaced by the use of "whole blood," together with an antigen stained with crystal violet. The small drop of blood necessary for this technique saves time in the bleeding process. Birds can be bled and the test completed and read at the rate of 50 per hour.

[1] Abridged report of the Director of Veterinary Research for the year 1932. Govt. printer: Salisbury, Rhodesia. Pp. 6.

MELANOSIS COLI

THOUGH many practitioners may never have heard of melanosis coli, and many text-books ignore it altogether, much has been written about the condition since it was first described about a century ago, and a recent review by Bockus and others [1] shows that many facts have been collected. As the name implies, melanosis does not extend above the ileo-cæcal valve; the pigmented substance is contained in large mononuclear cells of the tunica propria of the mucous membrane and cannot be found in the epithelial cells. The view, now widely held, that the pigment is actually a melanin is founded on evidence that melanin can be synthesised in the animal and vegetable kingdoms "by the action of a ferment on certain cyclic compounds such as tyrosine, phenol, and pyrogallol." The mechanism of this reaction has been analysed by B. Bloch, who, working with a precursor of melanin (dioxyphenyl-alanine), found that certain cells were able to complete the formation of melanin when this intermediate substance was exhibited. On the other hand, G. F. Laidlow, who was unable to confirm Bloch's experiments, believes that the pigment is simply derived from the food and arrives in the bowel wall by a process of phagocytosis. Be that as it may, it has been noticed by many observers that melanosis coli is commonly associated with constipation, and the work of Bockus and his colleagues brings out the further interesting fact that it is when constipation is treated with the anthracene group of purgatives that pigmentation occurs. Of their group of 41 patients with melanosis, 35 gave a definite history of having used anthracene purgatives—e.g., cascara, aloes, rhubarb—usually "for years." From these figures the investigators proceed to the statement that they have obtained "a history of the use of anthracene laxatives in 100 per cent. of thirty-five cases of melanosis . . ."—which is certainly true, though the facts might be better represented by stating that of their group of 41 patients 85·4 per cent. gave a positive "anthracene history." On the other hand, it was found that of 300 patients suffering from constipation not associated with melanosis coli, only 12·3 per cent. used anthracene laxatives. The conclusion that the important factors in the ætiology

[1] Bockus, H. L., Willard, J. H., and Bank, J.: Jour. Amer. Med. Assoc., 1933, ci., 1.

of melanosis coli are stasis in the colon and the presence of anthracenes in the bowel is supported by the additional evidence that pigmentation always disappeared when the use of anthracene drugs was discontinued, and constipation was corrected by re-education, dietetic adjustment, and remedies such as magnesia and liquid paraffin.

THE CASE AGAINST PRISONS

THE abolition of punishment and prisons advocated by Prof. White in a monograph reviewed on another page, is not, he reminds us, so radical or far-fetched as it might seem. It was foreshadowed by the movement for the more humane care of the insane, which has justified itself from every point of view. The unfortunate victims of mental illness are often anti-social in their conduct, and some of it seems to be dictated by very clear-cut desires to make themselves as disagreeable and as annoying as possible to those about them. The story of the campaign for the more intelligent and considerate care of these persons, for the removal of mechanical restraint and prolonged seclusion, is an oft-told tale, but even yet its lessons have not been learnt. Criminals are concrete examples of exceedingly difficult psychiatric problems, and punishment is as unscientific a method of dealing with them as it is with the aggressive reactions of the more obviously mentally ill. As those who have had to do with deranged individuals know, a few of them are exceedingly dangerous in the sense that they would commit bodily violence, and murder, maim, or endanger the lives of others wantonly; yet, as Prof. White reminds us, when the problem of dealing rationally with the insane was really tackled energetically, when restraint was really done away with, the miraculous result was that restraint was no longer found to be necessary. One by one various superstitions concerning the treatment of the insane disappeared, and with them went restrictions and restraints and frustrations, so that to-day the modern mental hospital differs very little if at all from other institutions for the treatment of human ailments.

From one point of view Prof. White points out the criminal is "just as sick as are those who are ordinarily recognised as being mentally ill, only his sickness is of a little different character, and is notable especially because of its obvious aggressiveness and destructiveness to the social structure." When approached along these lines the realm of criminology becomes one for scientific investigation, not only a search for causes is indicated, but an effort to find and apply effective remedies, at first empirically then experimentally, until the best results are obtained. While such research is proceeding, however, the conservation of the present system of detention of criminals seems to us almost inevitable.

SALE OF ALCOHOL IN FRANCE

TRACING the history of the consumption of alcoho in France during the last two decades, Prof. Paul Cazeneuve [1] comes to the conclusion that whenever hygiene is opposed to financial, economic, and political interests it is powerless to make scientific or medical truths prevail. This verdict is his reaction to the recent decision of Parliament, in agreement with the Government, to allow the establishment of 2000 new public-houses in France. Matters were very different in 1913 when, on the principle "Il ne faut pas tenter le diable," it was decreed that the number of public-houses should be limited to those already in existence. These, it was anticipated, would be reduced by processes of attrition. The present reversal of the Government's sober policy of 1913 encountered vigorous but futile opposition. Justin Godart, former Minister of Public Health, quoted in the Senate a resolution adopted last April by the Fédération Nationale des Syndicates Médicaux de France, which ran as follows: "Stupefied to learn that a financial law is about to authorise the opening of 2000 new public-houses in France, we protest against this veritable assault on the health of the nation. Are there not enough tuberculous persons, lunatics, and criminals who are patients in the hospitals in France . . . ? 2000 cabarets will yield the State two millions and cost it twenty." Dr. F. Merlin, president of the hygiene commission of the Senate, said on the same occasion that in 1855 the number of public houses was 291,000. By 1879 it had risen to 334,000, and by 1912 it was 482,036. At present the figure stands at 500,000. In Paris alone there are 13,000 public-houses for 2,600,000 inhabitants, whereas in New York, on the eve of Prohibition, there were 11,000 for 3,400,000 inhabitants, and in London only 6000 for 4,500,000 inhabitants. In Germany there is one public-house for every 264 people. In England the corresponding ratio is 1 : 430, and in Sweden 1 : 3000. In France it is 1 : 80. If the towns are taken by themselves this public-house ratio is even higher.

[1] Ann. d'hyg. pub., indust. et soc., September, 1933.

THE HARVEIAN CELEBRATIONS

THE annual Harveian Commemoration at the Royal College of Physicians of London will take place on Wednesday next, Oct. 18th, when the Harveian Oration will be delivered by Sir Thomas Lewis in the library of the College, at 4 P.M. The Commemoration Dinner will be held in the College on the same evening, and the annual sermon, re-established under the scheme of the Charity Commissioners for the administration of the Sadleir Trust, will be preached by the Dean of St. Paul's at the Mercers Chapel, Ironmonger-lane, E.C., at 11 o'clock in the morning.

Mr. Eric Pearce Gould, surgeon to the Middlesex Hospital, has been appointed president of the Medical Defence Union for the coming year.

Dr. Wilfred Harris will deliver the Savill oration of the West End Hospital for Nervous Diseases at the house of the Royal Society of Medicine at 8.30 P.M. on Wednesday, Oct. 25th. His subject will be the Traumatic Factor in Organic Nervous Disease.

THE annual dinner of the Royal Society of Medicine will be held at the May Fair Hotel, London, on Thursday, Nov. 16th, when the guests will include the Earl of Athlone and Sir Ernest Benn. On Wednesday, Nov. 29th, the president and Mrs. Warren Low will receive the guests at a reception at the Society's house in Wimpole-street. Prof. E. N. da C. Andrade is to give an address on Ultra-violet Light.

POST-GRADUATE WORK IN NEWCASTLE.—Under the auspices of the University of Durham classes meet at the Royal Victoria Infirmary, Newcastle, from 1.30 to 5.30 every Thursday afternoon till Dec. 14th (except Oct. 19th and Nov. 16th). A special course in midwifery and gynæcology is being held on Wednesdays at 3 P.M. Till Dec. 17th there will be lecture demonstrations in medicine and surgery every Sunday morning at 10.30. Further particulars may be had from the registrar, College of Medicine, Newcastle-upon-Tyne.

THE PREVENTIVE ASPECTS OF MEDICINE

The first of a series of twenty lectures to be delivered on Thursday afternoons during the winter session at King's College Hospital Medical School is printed in full below. It is our intention to publish subsequent lectures in this series.

THE STUDENT'S PREPARATION

BEFORE I came to King's College in 1895 to be on the staff I had already been inoculated with the preventive medicine bacillus. It is a very actively motile organism; you never know where you have it or where it will turn up next. I caught it, I think, because I had been engaged for a couple of years under the National Leprosy Fund Committee. This was a research committee advised by Mr. Jonathan Hutchinson, Sir Guyer Hunter, and Sir Joseph Fayrer, and one or two others, who were engaged in the business of exploring leprosy. I assisted in a subordinate capacity, both in the bacteriological department and in the history of leprosy. That was where I picked up this preventive medicine bacillus. I found that leprosy had no remedy and yet it disappeared. That drew my mind very forcibly to the extraordinary fact that the prevention of a disease is much more important than anything else. Leprosy did not disappear rapidly, but it had been prevalent in England—no doubt confused with other diseases, but so prevalent that there were more than 200 hospitals in the country devoted to leprosy and its allied conditions. Now there is not one public hospital in England devoted to leprosy. The more you reflect upon this fact the more astonishing you will find it. All over the world, with the exception of certain endemic areas, you have a disease which was once a scourge and is now, in this country, abolished.

After I left King's College in 1899 I became a medical officer of health in a metropolitan borough, and also under a county council. There I got involved still more with preventive medicine, and in 1907 I went to Whitehall. I think I may say, therefore, that I have come to this place this afternoon by a very simple and natural order of events. At Whitehall during the last 27 years I have seen and heard a good deal about preventive medicine every day of my life. After I had been there some two or three years a duty was imposed upon me to visit all the medical schools in the country which claimed financial aid from the Exchequer. This gave me further insight into what medical education was actually doing.

We are here to consider the preventive aspects of medical education. The subject is a very live one: for one reason because people are talking about it; and for another reason because the General Medical Council is engaged in revising the present medical curriculum which will affect us all.

ASPECTS OF MEDICINE IN GENERAL

It may be a convenient way of approach if I remind you that Medicine, though very largely a unified corpus of knowledge, has different aspects. There are not different kinds of Medicine, but it has different functions to fulfil and discharge.

Therapeutic medicine requires no observation from me at the moment, except to say that all healing and repair of tissue should be in fact in some degree, and in most cases in an overwhelming degree, preventive. Then there is *preventive medicine*, for the individual and the community. You must all be practitioners of preventive medicine if you are going to make good physicians in the time to come. There is preventive medicine applicable to the individual, and there is also preventive medicine applicable to communities, commonly called public health. The public health service and the practice of preventive medicine for the individual patient are not the same thing, or, indeed, identical in any way. You may have a public health service that is not preventive medicine, but preventive medicine applied to the community, and not to one person only, concerns the *public health*. Thirdly, there is *conservative medicine*.

When one thinks of conservative medicine one finds that it includes two fundamental principles. At its foundation is, first, what may be learned in nature, as expressed in Darwin's "Origin of Species" in 1859. He explained that nature consisted of various forms of life, and the nurture of species in relation to their environment. He knew there was variation, but he knew also that the environment had an influence on the individual, whether bird, beast, or man. That is the first foundation of preventive medicine; to relate the individual species to its environment with success. Herbert Spencer, about the same time, wrote that phrase which it is good for us to reflect upon: "Perfect correspondence with environment would be perfect life"; by which he meant, I suppose, that unless a bird corresponds exactly with its environment it will come to an untimely end. But the truth about bird or beast or man is the same: it is the adjustment of the individual and the species to the environment.

Secondly, though it came later and from quite different sources, there was the generalisation of Claude Bernard, the greatest of the medical French scientists of his time. In 1848 he announced what he called his Synthesis, his unified conception of what things meant. He found a constant internal environment in man set in a constantly variable external environment. And health, or hygiene in the constellation of Medicine, is the maintenance of that internal environment so that it may correspond with its external environment. The essence of this constancy has many examples in the proportion of sugar in the blood, the constancy of the blood content, the body temperature, the renal secretion, the endocrine secretion, &c. Preventive medicine is directed to fortifying that constancy, to maintaining it, in order that the individual may contend successfully, and through a long period of life, with the variablenesses of his external environment.

PREVENTIVE MEDICINE IN THE CURRICULUM

The General Medical Council has two primary duties in regard to education. It is the Council's business to recommend to the licensing bodies what they should teach. When a university gives its imprimatur to a man who has followed, generally speaking, this course and has satisfied the examiners, he is eligible for registration by the General Medical Council.

In the second place the Council have the Diploma of Public Health—the D.P.H.—for which the Council is responsible under a separate Parliamentary statute, and it lays down rules for that diploma. Parliament decided to leave all questions of recommendations as to ordinary medical education to the Council. You notice the difference in the word; when qualifying

men for State service, Parliament said there must be rules and not recommendations—so there are rules for the D.P.H. as there are not for other medical qualifications, because those who hold it are liable to be called upon by the State to serve in certain responsible public positions.

The General Medical Council is now engaged in a revision of the existing medical curriculum, and is carefully considering what can be done to introduce, even more emphatically than in 1922, the scientific, clinical, and preventive aspects of medicine into the curriculum. The triumphs of preventive medicine have become so obvious that the whole population has demanded to share in the advantages derived from them. It is not a stunt or fad of the General Medical Council to introduce the preventive aspects of medicine more emphatically than in the past. They have no alternative; they must appreciate the advances of the science and art of medicine since the bacteriological period of the 'nineties. Some critics propose that there should be more lectures on preventive medicine in the fourth or fifth year. Others would include attendance at special preventive clinics; that it would be a good plan if every student attended at some time in his curriculum at a tuberculosis dispensary, a venereal disease clinic, a children's clinic, a maternity centre, and so on. It has been suggested that medical students could pick up their preventive medicine if they attended some of these special preventive clinics.

The third proposal is to make preventive medicine a subject for special examination, or at least for invariable inclusion.

The fourth is to introduce the preventive medicine aspect into all subjects of the curriculum: chemistry, physics and biology; physiology and pathology; and the clinical subjects. That is a plan which has much to commend itself. I am not of those who think that clinical medicine and clinical surgery have had their day. Men who talk about physiology, pathology, and bacteriology in preventive medicine apart from the clinical examination of cases affected with a malady are not wise in their generation. Surgery may be claimed as one of the greatest preventive instruments of science and art we have, and operations within the scope of preventive surgery will at once occur to you. Clearly, aseptic surgery is preventive surgery. When it is not it becomes septic surgery. Circumcision is an example, perhaps the oldest, of all examples of preventive surgery. There is the operation for hernia; is that not prevention? And what of the removal of enlarged tonsils and adenoids; the treatment of spinal curvature, flat-foot, fracture, dental caries, gonorrhœal ophthalmia, rickets, tuberculosis; operations to cure the results of poliomyelitis, appendicitis, and so on?

Or take midwifery; we shall never get down to the problem of an excessive maternal mortality unless we apply preventive methods to our obstetrics. Lacerated cervix, possibly resulting in cancer; preventive surgery at the time of delivery and in the post-parturition stage; prevention of post-partum hæmorrhage, antisyphilitic treatment of the mother in order to save the child—all these activities are clearly prevention. In fact, from antenatal treatment until you have got the baby and got your mother out and about again, the larger part of obstetrics is preventive; the application of prevention to "disease" and risk which may arise in a normal function of nature. You may reflect to yourselves that there is no malady which fills a husband with so much remorse as the death of his wife in childbirth. Death in childbirth upsets the home, takes the mother away from the other children, and creates one of the profoundest problems of Preventive Medicine.

Pædiatrics and infant care should and can be preventive. When the mothers of a nation take care of their children under one year of age, you all know what they can do. They can reduce the infant mortality by one-half inside a generation, one of the most impressive triumphs of the principle of preventive medicine. The control of infectious diseases constitutes another example of practical prevention.

THE RÔLE OF THE GENERAL PRACTITIONER

The individual doctor is the exponent of the practice of preventive medicine, the most effective of all; the most effective adviser to the persons who are willing to give him their confidence and take his counsel; first, because he gets the patient, and secondly, because he is asked by the patient certain questions. I am very much on the side of the private practitioner; he is the man who is delivering the goods to-day; the scientific triumphs of preventive medicine are being applied by him.

He first gets the patient and the patient asks his advice. Moreover, he is entitled to the credit of practical prevention, for he invented it. We must not forget that. William Harvey, private practitioner and physician to St. Bartholomew's, demonstrated the circulation of the blood, and established that the blood is of the greatest import to man, because it is the blood which both nourishes him and may generalise his infections; Sydenham, the great practitioner in Pall Mall, the old doctor who joined few societies, but who became the father of English medicine because of his work as observer and scientist, because of his clinical acumen and wise understanding; Richard Mead, the practitioner of the eighteenth century, who worked at the prevention of the Plague; Fothergill, and "putrid sore-throat." Of Heberden, Huxham, and Lind, the first worked at the prevention of infantile disease, the second at scurvy, the third studied tropical hygiene and the health of seamen. Sir George Baker observed and prevented the abdominal colic which arose from lead poisoning; Withering made known the science of water analysis and climatology; Sir John Pringle studied the health of armies; Edward Jenner, a village practitioner in Gloucestershire, introduced vaccination in 1798; Thackrah, of Leeds, showed how to prevent industrial diseases in 1831; Dr. Michael Taylor, of Penrith, who first demonstrated milk-borne disease; in Manchester in the eighteenth century Haygarth, Ferriar, and Percival showed how to prevent small-pox, typhus, industrial diseases, hospital fever, and introduced isolation; Willan, Trotter, Cadogan, and Lettsom worked at the prevention of alcoholism in the eighteenth century, and the beginnings of the prevention of infant mortality; and there was Charles White, of Manchester, who was able to deliver his cases without puerperal sepsis, and teach lessons which, when we learn them, will enable us to do the same. These were remarkable contributions from medical practitioners to the art of Preventive Medicine.

When you enter practice, there are certain questions the patient will ask: (*a*) "What is the matter with me?" (*b*) "What produces this? Why have I got it?" (*c*) "Can you put me right?" (*d*) "Shall I get better?" And, just as he is slipping out of the door, (*e*) "By the way, doctor, how can I escape getting this thing again?" If you will look at the note in your hand, you will see the words *diagnosis, causation, therapeutics, prognosis, prevention.* Those are the

five issues. Those are the five questions and the five means of answer which everyone of you in practice will meet with sooner or later.

PREVENTIVE MEDICINE AND THE COMMUNITY

Lastly I come to the work of preventive medicine which is carried out by the State and by the local authorities. The local authorities are county councils, county boroughs, boroughs, urban and rural district councils. They exist all over England, so that there is no part of England that is not within the compass and ambit of a local authority. They raise the local rate and carry on the local government under the general supervision of central administration. Thus all the public health government in England is carried out by local authorities under the supervision of the State.

Let me remind you that, in addition to the duties imposed upon you by your professors, lecturers, teachers, and examiners, there are some duties put upon you by the State. First, you have to certify birth and death. You have to record when a child is born or a person dies, and you have to add the cause of death. It is a difficult thing; it is done more and more correctly every year, but not yet perhaps with sufficient accuracy. Secondly, you have to notify infectious diseases when you see them; therefore you have to know when you are seeing them. You have to diagnose and notify industrial poisoning. You have to be able to vaccinate, effectively and safely—very simple, if you know how to do it. These are "musts," not "mays," and if you cannot do these things you may in the last instance be summoned to a court of law to explain why you cannot do them. You must be able to advise a local authority on any point on which it consults a registered medical practitioner in relation to the poor—and as we are all poor nowadays, that is a wide obligation! You must know about dangerous trades; about poisons; about unsound food. You must know a mental defective child when you see it, and it is not always easy to differentiate a mentally defective person from a normally mentally dull person. You have to know epilepsy; you have to be able to meet all the difficulties of midwifery, and know what to do when a midwife in difficulty calls for your help. You must understand about dangerous drugs, how to use them and how to avoid them. So the general practitioner is the person who has imposed upon him by his registration the statutory obligation to undertake a number of preventive measures, whether he likes them or not.

One word about public medical services. You may think perhaps they have been multiplied too rapidly; anyhow, there they are. There is the poor-law medical service, employing about 4000 practitioners. The voluntary hospitals and municipal hospitals have all to be staffed by competent medical men who understand the inter-relationship between them. There is the protection of food-supplies, the maternity and child welfare centres, and the school medical services. There is the insurance service; Health Insurance is the very essence of prevention. The business of insurance is to assess the capacity of the body to live, and when you are examining an insurance case you are assessing the capacity of that man to live. The school medical services are also assessing the capacity of the child to receive the education which the State provides. The assessing of human capacity is the basis of prevention. The Metropolitan Life Insurance Co. of New York, the biggest organisation of its kind in the world, has become de facto a strong public health and communal medical service. It is one of the most comprehensive administrations concerned with the principles of prevention. These points may remind you that the State has accepted some responsibility for the training of the medical man, for men and women as sanitary inspectors, nurses, midwives, and other allied functions, and provides substantial financial assistance to these ends.

I welcome you as new medical men and women who are, I hope, going to be the heralds of preventive medicine to the new generation and in the new days upon which we are about to enter, and I wish every success to this course of lectures.

GEORGE NEWMAN, K.C.B., M.D.,
Chief Medical Officer of the Ministry of Health and the Board of Education.

THE SERVICES

ROYAL NAVAL MEDICAL SERVICE

THE following appointments are notified: Surg. Comdrs. S. R. Johnston to *President* for post-graduate course; J. C. Sinclair to *Defiance*; F. C. Hunot to *President* for Medical Dept., Admiralty; and J. B. Crawford to *Pembroke* for R.N.B.

Surg. Lts. A. K. Stevenson to *Champion*, and H. D. Plunkett to *Sutton*.

ROYAL NAVAL VOLUNTEER RESERVE

Surg. Lt. C. Mason to *Warspite*.

ROYAL AUSTRALIAN NAVY

Surg. Capt. L. Darby to *Victory* for R.N. Hosp., Haslar.

ARMY MEDICAL SERVICES

Col. J. Mackenzie, late R.A.M.C., having attained the age for retirement, is placed on retd. pay.

Lt.-Col. C. R. Millar, from R.A.M.C., to be Col.

ROYAL ARMY MEDICAL CORPS

Maj. H. Gall to be Lt.-Col.

Maj. W. Bligh relinquishes his temp. commn. and retains his rank.

TERRITORIAL ARMY

Col. T. B. Wolstenholme vacates the appt. of A.D.M.S., 42nd (E. Lan.) Div., T.A., on completion of tenure.

Lt.-Col. and Bt. Col. J. K. Lund, from R.A.M.C., Gen. List, T.A., to be Col., and is apptd. A.D.M.S., 42nd (E. Lan.) Div., T.A.

Lt. G. P. Smith to be Capt.

ROYAL AIR FORCE

Flight-Lt. O. S. M. Williams and Flying Officer J. F. Dales are granted permanent commissions in their rank.

The undermentioned are granted short service commissions as Flying Officers for three years on the active list: L. S. Everett, G. Gilchrist, and W. P. Griffin.

COLONIAL MEDICAL SERVICES

Dr. E. M. Clark has been appointed Medical Officer, Somaliland; Dr. G. M. Gibbon, District Medical Officer, Cyprus; and Dr. H. F. Hustler, Medical Officer, Gibraltar; Capt. G. H. Gallagher has been promoted Assistant-Director of Medical Services, Gold Coast; and J. M. Hall, Senior Sanitary Medical Officer, Jamaica.

BOSTON ISOLATION HOSPITAL.—During his recent tour of inspection of local government areas, Sir Hilton Young, the Minister of Health, opened a new isolation hospital which has been erected at a cost of about £12,000 by a joint isolation hospital committee representative of the Boston town council and the Boston rural district council. The Minister congratulated the authorities concerned upon the attractive appearance of the building, and emphasised the desirability of making the institution part of a coördinated scheme covering the whole of Lincolnshire.

POST-GRADUATE LECTURES

WE continue this week to publish extracts of some of the lectures delivered at short post-graduate courses held at London teaching hospitals. Dr. Griffith spoke at Westminster, Mr. Cope at St. Mary's, and Mr. Davis at Charing Cross.

SORE EYES

(MR. ARTHUR D. GRIFFITH)

I PROPOSE confining myself to consideration of a few very common conditions.

Mucopurulent conjunctivitis.—Conjunctivitis of the type popularly described as "cold in the eye," or "pink eye," is most commonly caused by the Koch-Weeks bacillus or by the pneumococcus. Of these the latter form has the more sudden onset, which may be so sudden, indeed, that it is difficult to convince the patient that he has not a foreign body in his eye. If there is mucopurulent discharge on the lashes or there are flakes of muco-pus floating in the tears in the lower fornix of the conjunctiva, the diagnosis is evident. If there is no discharge, and the eye is only red and weeping, the diagnosis depends on observing that the iris is bright and movable, that the injection of the globe is confined to the brick-red conjunctival vessels, and that the conjunctiva of the lids is red and thickened.

Treatment consists in lavage, using mild antiseptic drops, and greasing the lashes at bed-time with vaseline, so that they shall not stick together during sleep. This last precaution is important, because if the lids are allowed to get glued together during the night, recovery will be delayed. The composition of the lotion is not very important, except that it should not be irritating. It should be approximately isotonic with the tears; it may be 2 per cent. boric acid, or 1 per cent. salt solution, or better a mixture of salt, borax, and sodium bicarbonate. The eyes should be washed with the lotion thrice daily, and after each washing a drop of some mild antiseptic should be dropped within the lower lids. In the conditions we are considering the drops may be Collosol Argentum, or 10 per cent. Argyrol, or 5 per cent. Protargol.

Angular conjunctivitis is less common than these, but still quite common. Here the redness of the conjunctiva is most marked at the corners of the eye. It may be recognised also by the fact that the redness extends on to the intermarginal margin of the lids, and even a little on to the skin surface. There is very little discharge, just a flake or two of muco-pus in the tears in the lower fornix. You should always associate in your minds angular conjunctivitis with zinc, because zinc salts are specific in the treatment of this condition, and unless they are used it will persist. A suitable lotion is 2 per cent. boric acid with the addition of gr. 1 of zinc sulphate to the ounce, the lotion to be diluted with an equal volume of hot, boiled water for use.

Chronic conjunctivitis.—This is difficult to treat, and is one of the main curses of the life of the ophthalmic surgeon. Unless one is content with merely palliative treatment one must try to understand the underlying cause in each case. Often it is not possible to discover this, and then the patient should be told that his trouble can be controlled but not cured, and that he must be prepared to continue treatment indefinitely. The cases most amenable to treatment are those due to eyestrain. The desk worker with uncorrected, or imperfectly corrected, hypermetropia or astigmatism is liable to get his conjunctiva chronically injected, and the careful correction of his refractive errors by suitable spectacles will cure or greatly relieve the conjunctivitis. Another cause of chronic conjunctivitis is repeated irritation of the conjunctiva. Tobacco smoke is often responsible for this, especially the smoke-laden atmosphere of the card-room. Late hours and alcohol increase the trouble, and the patient who nightly sits up late playing bridge and then comes to the doctor asking to be cured of his chronic conjunctivitis is asking the impossible. Many people find that their eyes give them no trouble when they are living in the country, but that they feel hot and gritty and weep when they come to London. The patients often attribute this to tar and motor-car exhaust gases in the atmosphere of the town, and perhaps they are right.

The "gritty" feeling of which patients complain so constantly is due to the fact that the hyperæmic conjunctiva secretes more mucus than usual. The mucus forms a film over the front of the eye and is rolled up by the blinking movements of the upper lid into a cylinder which lies between the upper lid and the globe, which it irritates. Patients often tell one that on waking in the morning they find it difficult to open the eyes. This is because it requires some muscular effort to roll up the film of mucus which has been deposited during the night. If the mucus persists as a film over the cornea for some time, it causes dimness of vision and rainbow haloes from diffraction of light. These haloes can be distinguished from those of glaucoma by their being observed early in the day rather than in the evening, and by their disappearing on rubbing the eyes.

The most difficult class of these cases is that in which the resistance of the patient to infection has been impaired by a disturbance of metabolism, especially by remote infection. The possible sources of such infection are many. Probably the commonest source, and the first to be investigated, is the teeth. It is not so much "open" infection, caries, and pyorrhœa, that is the enemy in this connexion, although it does harm by infecting the alimentary tract lower down, but "closed" infection, that is, infection of the bone about the apex of a tooth, this including the so-called "apical abscess." Diagnosis can only be made after careful consideration of good dental radiograms and calls for the greatest judgment. Many surgeons hold that a dead tooth is necessarily infected and must be removed, but while it is true that there are almost no limits to the damage that may be done by a single infected tooth, on the other hand patients vary in their resistance to infection, and bone rarefaction may be followed by bone sclerosis, as shown in later radiograms. One can also do a patient a grave disservice if one condemns, as infected, teeth which are only suffering from mal-apposition; we leave him no better of his original trouble, but with added malnutrition from inability to masticate. I would not have you belittle the part played by dental infection in causing disease; I only urge that dental extraction be carried out not indiscriminately, but after careful consideration of all the conditions. In these cases one must collaborate with a capable dental surgeon who is accustomed to interpreting dental radiograms. Chronic tonsillitis, where there are large crypts containing stagnant infected matter, calls for tonsillectomy. Stasis in the large intestine is a frequent cause of chronic conjunctivitis. Some help in treatment may

be got by examination of the fæces. If a hæmolytic streptococcus can be isolated, a vaccine may help the patient. A relative count of culture colonies of *B. welchii* and *B. coli* will give an index of putrefaction in the colon. If the proportion of Welch's bacillus is unduly high, good is likely to come from encouraging the growth of *B. acidophilus* in the large intestine. Large doses of lactose given on an empty stomach provide the latter organism with the food it requires, and enable it to flourish at the expense of putrefactive organisms. Aperients are necessary, preferably a good paraffin agar-agar emulsion daily. Other sources of infection are the nasal sinuses, the urinary tract (cystitis and pyelitis), the genital tract, and the gall-bladder.

As local treatment of chronic conjunctivitis we rely mainly on astringents. It is a good plan to begin treatment by painting the palpebral conjunctivæ with 2 per cent. silver nitrate solution daily for a week. Silver nitrate has the advantages that it is an active antiseptic in high dilutions, and that it does not readily destroy lysozyme, the natural antiseptic in the tears. Used in this way silver nitrate coagulates the superficial epithelial cells, which are cast off, and the theory is that in this way organisms which have embedded themselves in the conjunctiva are destroyed. After this an astringent lotion is ordered. Patients vary in their tolerance of astringents, and the lotion first prescribed may contain only zinc sulphate gr. ½ to the ounce of boric acid lotion. As tolerance is established the proportion of zinc is increased, until the lotion contains zinc grs. 2 to the ounce. The patient must be told that he is to follow the treatment for at least three months.

Blepharitis may complicate chronic conjunctivitis. It is described as either blepharitis squamosa or blepharitis ulcerosa. These terms are synonyms for the common skin diseases, seborrhœa sicca, and eczema. One must not diagnose blepharitis because there is dried discharge on the lashes. If on bathing away the discharge the skin on the lid is found to be healthy, the condition is one of conjunctivitis. In blepharitis squamosa the skin is red but not ulcerated. These patients always have scurf on the scalp, and often also on the eyebrows. The eye condition is helped by treating the scalp with a hair-wash containing mercury or resorcin, and for the eyebrows and eyelids a mercurial ointment, such as 1 per cent. ammoniated mercury, or Pagenstecker's 1 per cent. yellow oxide of mercury, should be used. An essential preliminary to applying the ointment is thorough cleansing away of crusts with an alkaline lotion. In many cases of blepharitis there is an inherited lack of resistance to staphylococci or other organisms, and red eyelids occur in many members of the same family.

Ectropion.—In old persons with chronic conjunctivitis the thickening of the conjunctiva and increasing laxity of the orbicularis muscle cause the lower lid to fall away from the globe so that the lower punctum lacrimale is no longer applied to the eye and tears cannot enter it. The constant weeping of the eye causes eczema of the skin, with consequent increase of the ectropion. In slight degrees the simple operation of removing some of the posterior wall of the canaliculus allows the tears again to enter it and stops the weeping. When the condition is more advanced it is necessary to do the operation of blepharoplasty, which, by shortening the lid, pulls the punctum again in contact with the eye.

Lacrimal obstruction.—In all the diseases described the condition of the two eyes is approximately the same. When conjunctivitis is confined to one eye, or is far more marked in one eye than the other, one must suspect a one-sided cause for the trouble, and this is likely to be obstruction to the tear passages on one side. Diagnosis is made by attempting to syringe water through the lower canaliculus to the throat, and treatment is operative, usually excision of the infected lacrimal sac.

SOME COMMON MISTAKES IN SURGICAL DIAGNOSIS

(MR. V. ZACHARY COPE)

THESE remarks are based upon a survey of the last thousand cases seen by me in private practice. I have gone over them chiefly to note the mistakes which I have made, but have in addition picked out some instructive cases in which the mistakes were made by the practitioner in charge of the case. Some mistakes are unavoidable, but many would be avoided by fuller examination. Few occur from mere ignorance.

Breast cases do not furnish many errors. We need not dwell on the lipoma of the breast which I took for a cyst, for a lipoma here is very rare; but of greater import was the failure in one case to distinguish between a deep thick-walled cyst and a cancer of the breast. Under an anæsthetic I put a needle into the lump but withdrew no fluid, and the diagnosis of cyst was only made after excising the whole swelling. In general I do not favour the needling of breast tumours because with a thick-walled cyst the fluid may not be reached, whilst a cyst containing clear fluid may still have a cancer forming within it. Still more instructive was the mistaking of a soft, round, and apparently fluctuant swelling, not adherent to the skin, for a cyst when it was actually a carcinoma. These cases point the moral that every lump in the breast which can be felt with the flat of the hand should be excised completely. I have several times seen the perfect simulation of a fibro-adenoma by a cancer, twice in women under the age of 30. Fat necrosis of the breast is rare and almost impossible to diagnose. I took such a case to be an abscess. The only other mistake in breast-diagnosis was that in which I thought a large hard swelling in a woman of 70 was probably a cancer or thick-walled cyst, whereas in fact it was a mass of chronic inflammatory tissue—true chronic mastitis.

Swellings in the neck often give rise to doubt but seldom to errors in diagnosis, for here exploration is easy. Some doctors forget that an early biopsy is better than a late autopsy. In case of doubt it is far better to excise a gland than to wait and see. Also remember that the nasopharynx, the base of the tongue, and the pyriform fossa are places where a small carcinoma may hide itself until glands in the neck are quite a large size. The chronicity of some glands in the neck is remarkable. I once removed a gland which had been present in the neck of a woman of 72 for nine years, and the histological report said lymphosarcoma. You may think the pathologist was wrong, but it is quite as likely that your ideas of cancer are wrong. Malignant disease moves with the speed of the second-hand in infancy and adolescence, slows down to the rate of the minute-hand in middle age, but in old people creeps on almost imperceptibly like the hour-hand of the clock. With carcinomata in old people there is not quite the same urgency for operation but the prognosis is better if the growth is adequately removed.

Rectal cancer is frequently diagnosed late from

the omission of a digital examination of the rectum. Occasionally a large mass of hard fæces in the rectal ampulla may be too large to be evacuated, and by its constant irritation may cause tenesmus and the passage of mucus, and so simulate the symptoms of cancer. One of my patients was thought by the practitioner to have cancer but was proved to have this condition. Another case points its own moral. A patient with an ulcer at the anal margin had been treated elsewhere by radium applications at three-weekly intervals for a period of 18 months. When I saw him the simulation of epithelioma was complete, so I advised excision. This was done successfully and the ulcer proved to be tuberculous. No doubt the induration was due to the reaction to the radium. Remember that if radium is likely to do good its effects will be obvious at the most within three months.

Within the last 18 months I have seen three patients with rectal symptoms which followed immediately upon the administration of an enema, and I think these were cases of trauma due to the enema. Fluid may easily be forced through a minute abrasion of the mucosa and lead to ulceration and pelvic cellulitis. The symptoms may be initial collapse in severe cases, but merely discomfort in others. Fever, tenesmus, and frequent passage of mucoid stools may follow. Mr. H. H. Rayner drew attention to this type of case two years ago, and I am sure it is often unrecognised. Healing takes many weeks. It is wise always to give an enema by funnel and tube.

It is easy to mistake some cases of *cholecystitis* for appendicitis, since the irritative fluid tracks down to the right iliac fossa. Only one such case is in this list, since experience makes the mistake rare. I made a tentative diagnosis of cholecystitis in a woman, who at operation was found to have a normal gall-bladder but innumerable fine soft adhesions between the liver and diaphragm, which were easily broken down by the finger. She had suffered from influenza and pleurisy some weeks before the onset of the pain, and I think the inflammation had gone through the diaphragm. This class of case is entirely new in my experience. She was cured of her pain by the operation.

Wrong interpretation of *phrenic shoulder pain* caused a doctor to ring me up and say he had gall-stones because of pain felt at the tip of the shoulder. I told him gall-stones seldom caused this symptom; actually he had right pleural effusion. Only once in this series was gall-stones diagnosed on full clinical grounds without a positive finding at operation, but in this case both myself and another surgeon thought the diagnosis almost certain. We were wrong. Only evidence of old perityphlitis was found. In one case a large gall-stone lying in a twisted gall-bladder directed towards the umbilicus closely simulated a cancer of the pylorus which I had provisionally diagnosed before operation.

A considerable group of wrong diagnoses centre round the *appendix*. Twice in this series a cyst of the ovary simulated appendicitis. Careful rectal examination can usually differentiate between them. Once I made the quite unavoidable mistake of diagnosing appendicitis when in fact there was a very acute typhlitis without involvement of the appendix. Once cholecystitis was diagnosed when the disease turned out to be in the appendix. Twice I found it impracticable to distinguish between inflamed ileocæcal glands and appendicitis. As a rule the glandular inflammation gives rise to short sharp attacks of colicky pain, vomiting is less frequent than with appendicitis, and the sequence of symptoms is not so definite. But occasionally it is impossible to distinguish with certainty. The two appendicular cases which caused me most anxiety were in children. The first was a child of 3 with abdominal pain but some indefinite signs at the base of the right lung. The abdominal wall moved well, and I noted that the alæ nasi moved. Vomiting had preceded the onset of the pain. On these grounds I was for temporising, but a physician who was equally doubtful advised exploration and an acute appendicitis was found. My general experience is that when after a full examination you are doubtful whether the abdomen or chest is the site of the trouble it is actually the abdomen. The second case was that of a boy who had the history and physical signs of pelvic peritonitis due to appendicitis; I found the appendix inflamed but unperforated, and the after-course of the case showed that the abdominal symptoms were but part of an influenzal septicæmia. Such cases are fortunately rare.

I do not think it is sufficiently realised that *pyelitis* is often accompanied by considerable perinephritis, leading to resistance in the iliac fossa. Though it is better to operate than to leave a diseased appendix to perforate, one can usually distinguish between the two lesions, and I have several times had to refuse to operate in such cases.

Diverticulitis furnishes quite a number of diagnostic problems. It is sometimes impossible to say before opening the abdomen whether a pelvic peritonitis has its origin in the appendix or a diverticulum of the colon. Usually the history and sequence of symptoms help the decision but they may fail to do so. Abscesses resulting from diverticulitis may form insidiously, and twice I have been in doubt as to the diagnosis before operating. The common left iliac pericolitis due to inflammation round a diverticulum of the iliac colon is usually easy to diagnose, and as a rule does not need operation.

Practitioners often make mistakes in diagnosing *intestinal obstruction*. Strangulated femoral and small umbilical herniæ are often overlooked. It is also forgotten that retroperitoneal extravasations may cause intestinal paresis with vomiting and distension. A year ago I saw such a case where a large hæmatoma from rupture of the kidney caused symptoms of obstruction. The history and the presence of a loin swelling with hyperæsthesia of the area of the twelfth dorsal nerve made the diagnosis clear.

The *distended bladder* is a perennial source of wrong diagnosis. Twice during the past year I have been called to patients thought to be suffering from subacute intestinal obstruction only to find that in each case the bladder was distended up to the umbilicus. In one case the simulation of obstruction was due to uræmia, but in the other I believe the mechanical pressure on the colon by the bladder may have caused it. Some years ago I saw a child in whom the symptoms of acute obstruction were due to pressure of a distended bladder on the rectum. The passage of a catheter was followed by relief of the obstruction. I have seen this distension of the bladder backwards and not upwards on several occasions.

Finally remember that atypical severe pains in the abdomen may be due to *tabes*. Not long ago I was asked to see a man who had recurring attacks of very acute epigastric pain—like biliary colic—but unaccompanied by jaundice. I saw him in an attack, but the atypical nature of the pain made me examine the knee-jerks and pupils where I gained the clue to the gastric crisis. On the other hand, do not think that because a patient has tabes his abdominal pain must be due to a gastric crisis.

If a tabetic patient with abdominal pain has persisting rigidity of the abdominal wall you may be sure he has a surgical cause for his pain. I gave this admonition in a lecture a year ago, and within a week one of my audience was faced with a patient sent up as a gastric crisis, but presenting persisting abdominal rigidity. He did not delay in opening the abdomen and suturing a perforated gastric ulcer. Tabetics may have perforating ulcers of the stomach and duodenum as well as of the foot.

SUPPURATION OF THE MAXILLARY ANTRUM

(MR. E. D. D. DAVIS)

THIS common disease appears to be getting commoner, partly because diagnosis is better and treatment more energetic than it was in the past, when sinus trouble was often ignored until polypi developed. The maxillary antrum is the cesspool of the nasal secretions. Drainage from it is poor, so that suppuration tends to continue. The antrum is a pyramidal cavity, and usually has recesses in its walls; into one of these, which lies below the level of the nose, the roots of the three molar teeth project, separated from the cavity of the antrum only by the mucous membrane and a thin layer of bone. Another recess lies near the lacrymal duct. The ostium of the antrum lies under the middle turbinate bone; pus tends to trickle backwards from this opening to the nasopharynx and may be observed there when it is not visible at the front of the nose. The lining of the antrum is ciliated mucous periosteum, and it is important to preserve this membrane at operation, because good drainage can only be attained if the cilia are uninjured. For this reason it is wise to use a sucker, not swabs, to mop out the antrum. Curetting leads to osteomyelitis; suppuration in this site is typically a disease of the mucous membrane, and it is rare to get bone infection in the ordinary way.

The commonest cause of maxillary antrum suppuration is spread of infection from the nose, which is responsible for 80 per cent. of cases. Influenza often provides the organisms, and the infection may be streptococcal (from the type of influenza common in January and February) or pneumococcal (from the type of influenza common in September and October). The pneumococcal type may also follow a severe cold with high temperature and possibly rigors. Recently, bathing in polluted water as a cause of sinus trouble has been emphasised. Sinus trouble rarely follows the acute specific fevers. After infection from the nose dental sepsis is the next commonest cause. When pus collects at the apex of a molar it usually tracks outwards and forms a gumboil, but if the condition is chronic the pus may burst through the thin layer of the bone into the antrum. Dead teeth are especially likely to become thus chronically infected. Extraction of a tooth may give rise to sepsis; any dentist, however careful, will sooner or later open an antrum. The accident is recognised by a little bleeding from one nostril and the escape of a little of the mouthwash through the nose. If the antrum is healthy nothing will happen; the gum can be stitched. It is unwise to wash or swab the cavity; having opened it, leave it alone. Most cases will clear up, but a certain number will suppurate in any case. When a dental root is broken during extraction and driven up into the antrum, severe infection may follow. The mucous membrane becomes œdematous and the root remains embedded in it; if the piece of tooth is removed and a drainage opening made into the nose the whole thing clears up in about three weeks. A radiogram is usually needed to decide whether the root is in the antrum or not. The position is often characteristic; if the root is lying horizontally and fairly high up it is probably in the antrum; if it lies lower down and vertically it may be between the antrum and the gum. The ethmoidal cells or the frontal sinus may keep infection alight in the maxillary antrum, so that cases of nasal origin seldom do as well as those of dental origin. In a chronic infection of nasal origin the mucous membrane becomes thickened and polypoid, and it is wise to operate through the canine fossa in the mouth in order to get a good look at it.

Nearly all antrum operations aim at establishing permanent drainage through an opening in the nose. This is insufficient by itself, because the œdematous middle turbinate shuts off the natural opening; it is customary, therefore, in addition, to remove part of the middle turbinate and enlarge the ostium. In the older operation, an opening was made by extracting the first molar tooth, but the drainage obtained was like that from an inverted bottle and a mass of granulation tissue was apt to make a ball valve in the hole. Moreover, the cilia swept away from the opening towards the natural ostium, and the patients disliked the drainage into the mouth, so the method has been abandoned.

After-treatment used to involve a daily wash-out of the antrum, but this, too, has been given up. It was found that in patients who came up for daily syringing the infection persisted, whereas those who neglected to attend did well. Nowadays the antrum is washed out three or four days after operation and then left alone.

The predominating diagnostic sign of sinus infection is the discharge of pus which is offensive to the patient, particularly on stooping. Pain is uncommon except in the acute stage, when it radiates up the side of the head and is periodic. If pain is persistent and severe in a patient of cancer age, and there is bleeding from the nose, suspect epithelioma spreading into the antrum. Another symptom of maxillary antrum suppuration is vasomotor rhinitis; the patient complains of unilateral blocking of the nose in the mornings and sneezing. On examination of the posterior nares pus will be seen escaping from below the middle turbinate. It is as well to shrink the swelling of the turbinates with 10 or 20 per cent. cocaine on a swab before making the examination, but this must be done gently. If a spray is employed only 4 per cent. cocaine can be used because absorption is so much greater. But if cocaine is used on a swab with a little adrenaline a much higher concentration can safely be applied. Should the patient become unduly brilliant or confidential in his conversation it is as well to withdraw the swab, as this is an early sign of cocaine poisoning. Transillumination of the antrums in a dark room gives useful diagnostic information; if the crescentic area of shadow under the eye is darker on one side than the other, that antrum may be affected. Reverse illumination can be performed by pressing a light against the floor of the orbit through the lower lid and comparing the area of light transmitted through the roof of the mouth on each side in turn; this need not be performed in a dark room. A radiogram to be helpful must be taken exactly in the direct antero-posterior position, otherwise the malar bone throws a shadow on one antrum and not the other. In one position,

moreover, the shadow of the petrous bone lies across the floor of the antrum and with the head thrown forward it lies across the top of the antrum; radiograms of the two positions give a clear picture of the top and bottom of the antrum separately. Finally, if there is any doubt of the diagnosis the antrum may be punctured and washed out; if the washing is clear the antrum is regarded as being normal.

Palliative treatment of an infected antrum includes rest in bed on high pillows and the inhalation of menthol steam, which shrinks the mucous membrane and allows the pus to drain away. The patient should inhale the vapour for five or ten minutes and then lie on the side opposite to that affected. This treatment will often clear up the infection completely. Lotions should not be used; they tend to drive infection to the ear and sinuses. Pain can be relieved by applying cocaine and adrenaline on a swab to the middle meatus. Aspirin can be given freely and Dover's powder if necessary. If there is no improvement after two or three days the antrum should be washed out, and if symptoms persist permanent drainage into the nose becomes necessary.

SPECIAL ARTICLES

MEDICINE AS A CAREER[1]

BY LORD HORDER, K.C.V.O., M.D., F.R.C.P.

WHEN I received the Provost's kind invitation to come to Cardiff to address you on the occasion of the opening of the winter session of your school I had several inducements to accept it. To begin with I felt I was coming amongst friends, for indeed I am happy to count several of your teachers as personal friends, and two or three of them valued friends of long standing. Then in the second place I was external examiner in medicine at the University of Wales for two years, and have only just resigned that honourable post. In the third place I have been familiar with the history of your medical school and have watched its progress since the days when Sir William Osler, himself a great friend of your school, took an active part in advising those concerned about the foundation. I watched the pangs of its birth, the struggles of its early years, and I have noted with great satisfaction the rapid development it has made in more recent times. I have for these reasons become very sympathetic towards the efforts you have been making to take your place amongst the great teaching centres in medicine. I feel sure that you have arrived at last, despite many difficulties. And if I could do anything to help you to consolidate your position I was most willing to attempt it. No man can really be a judge of his own capacity to fulfil a desire of this kind; that must be left to the judgment of those who view him from without. So that the responsibility of my being here in the capacity in which I find myself this evening is, as you see, not mine but that of your Council and of Prof. Sheen, your provost. I can but affirm that I have a definite attachment for your school, and that I feel honoured, and am pleased, to be here.

MEDICAL EDUCATION IN WALES

I want to add one other thing, because I am glad to be able to record it. It was one of my duties, as external examiner, to judge of the standard of the examinations for the degrees of M.B. and M.D. at Cardiff. I reported that this standard was, in both cases, very satisfactory indeed. Previously, I was not certain. Being of a generous disposition, I assumed that it was. But now I know, and I know from my own observations. So that when I meet a graduate in medicine of the University of Wales, my attitude is one of entire respect. I ought to say here, perhaps, that I have had a good deal of practice in examining in London and outside it, so that my estimate is based upon plenty of comparative experience. Nor do I see any reason why this high standard should ever be lowered. Sooner or later the maintenance of a high standard is itself a great attraction to a school. It raises the level of general culture amongst the students who enter the school, and it keeps up the level of efficiency of the graduates. I know that these two considerations are always in the minds of your professors and their colleagues, and once the tradition is well established it is not likely ever to die.

Not only has the Welsh National School of Medicine become a recognised training centre of graduates well equipped for the practice of medicine; it has become a fruitful field for the training of teachers in medicine and in ancillary subjects. Cardiff has already sent teachers of distinction to other large centres, including London. This attainment is no less important than the establishment of a reputation for a high standard in its graduates. If I add to these assets certain others—such as your excellently designed and equipped laboratories, the wealth of clinical material, and the opportunity which you have of linking up the various hospitals so as to make this material available for teaching and for research, —this is, of course, the key position in your scheme— there seems to me to be here in Cardiff all that is required to make a great school of medicine. Of course one other thing is necessary, indeed, is vital: it is a thing vital to the success of every human activity, whether this be a school of medicine or any other institution: a whole-hearted spirit of coöperation to one end on the part of those concerned. The word is hackneyed, but there is no other equally appropriate: *esprit-de-corps*. And in the corps we must include not only students and teachers but lay administrators and municipal authorities. There are times when young institutions suffer from a lack of vision on the part of one or more of these essential constituents of its corporate whole. And it is no secret that the Welsh National School of Medicine has been bothered and handicapped in the past by discordant voices when the one thing necessary to the success of a dynamic policy was unison and harmony. A strange thing this in Wales of all places—dysharmonious singing! But let us not talk of the past. There is now a united front and a united spirit, and therefore, with all these advantages of which I have spoken, there is the certainty of a long and successful history for your school.

FIELDS OF WORK

I don't suppose anyone here this evening remembers that I opened a winter session of your school in Cardiff a good many years ago. I doubt if Prof. Sheen remembers this. The incident is dim even in my own memory. I believe I talked about the qualities that I thought went to the make-up of a

[1] An opening address given to the Welsh National Medical School on Oct. 6th.

good doctor. Put like that it sounds as though I were a little sententious, and I probably was. Anyway, as those I was addressing were presumably all committed to medicine as an occupation for the rest of their working lives it was clearly rather late in the day to consider whether they were fitted for this pursuit or not. And I don't suppose for a moment that anything I said induced a single student to give up a mistaken vocation before it was too late. I am not going to speak this evening about the material of which good doctors are made, but of the career which medicine offers to all healthy boys and girls, possessed of an average intelligence quotient, who want scope for the exercise of their personalities and whatever other gifts they possess. No doubt a good doctor, like a good poet, is born and not made. But it really is impossible to say in advance who will make a good doctor. Medicine holds out so many and such different possibilities that this consideration need not deter anyone from entering it who seems not to have received a "call" for it. There are probably some here this evening who get spasms of doubt as to whether they are cut out for the career of medicine. There may even be some whose doubts are more continuous, so much so that this exercises a depressing influence upon their work. I don't think they need worry. I think this feeling is natural to many people who are still in the noviciate stage, whatever it may be that they have undertaken; indeed—and this is the point I want to make—I believe this feeling is not uncommon in that very temperament which, later on, finds the practice of medicine to be extremely congenial, and whose work is therefore very satisfactory. If I yield for a moment to the temptation to be personal, I will confess to you that I have been conscious of this feeling of doubt about my own choice of a career at frequent periods ever since I began the study of medicine. I still sometimes wake in the night, in what is called—perhaps with more expressiveness than actual truth—"a cold sweat," and with a sense of panic lest I may have missed my vocation. And I have, even yet, never quite forgiven Fate for denying me, what at the time I thought so essential, the leisure and the opportunity of thinking out, fully and carefully, the pros and cons of the profession into which I was, as it were, inveigled. I remember how fearfully and tentatively I approached the final decision. I dallied first with biology, then with physiology, teaching both of these subjects before finally committing myself. Then, when the step was at last taken, I remember the qualms and the doubts that assailed me. Had I but realised the vastness of the sphere presented by medicine I might have spared myself all this mental agony and stepped off boldly, assured that somewhere in this large and ample country I should find a congenial spot for the exploitation of whatever gifts fortune had bestowed upon me. Since that time medicine has broadened out more and more, and to-day there is a positively staggering choice of activity for young men and women who enter its ranks. So you need have no fear. If you do not find a niche of some sort you are dull dogs indeed.

It is considerations like these that lead me to speak of medicine as a career. It is much more than a business, it is even more than a profession; it *is*, indeed, a career. At almost any point you may either remain, or branch off, or continue. You may remain, and do excellent work, in the pure sciences. You will have wasted no time, and you will have a life-interest, and earn a livelihood as a teacher. You may branch off into pathology—whether morbid anatomy or bacteriology or biochemistry—and again you will have open to you a field for active effort and the means of living. You may feel the compulsion of uniting the scientific spirit to a close contact with your fellow men, and so pursue the path to what we must regard as the natural end of the medical curriculum, the general practitioner. But before you finally decide that this is your proper sphere, you may branch off yet again, and take a special line. If you have a sceptical mind and a critical spirit, and the craftsmanship of medicine does not attract you, you will take silk and train yourself to receive briefs of obscure and difficult cases, analysing them, supplementing them, giving judgment concerning them—in short, you will become a consulting physician. So complex a thing is the human body, and so elaborate with its infinite permutations and combinations is pathology (I use this word in its widest and truest sense), that it is difficult to believe that there will not always be need for men and women of this type in medicine. For the popular idea that diagnosis, and the selection of an appropriate programme of treatment, can be achieved without the operation of the human mind is, I believe, a fallacy. I say this *pace*, the craving amongst laymen for the verdict of some sort of machine which is supposed to be free from that element of fallibility that is inherent in our mental processes. Some sort of instrument, or apparatus, is regarded rather like the photographic camera: "it cannot lie." Abrams' Box is one of the latest of these short cuts to diagnosis and treatment.

But the craft may attract you, and, if so, there is great diversity of choice, as there is great diversity of gifts. In the main this may be said to be the exploitation of technique through the hand, rather than through the eye and the ear; surgery, to wit: general surgery or special surgery. But the branchings off are by no means exhausted yet. There is radiology—irradiation in diagnosis and irradiation in treatment, and already these two are being segregated as separate fields with, again, irradiation by X rays as distinct from irradiation by radium. Then there is physiotherapy (as distinct from irradiation), the renaissance of which, as an important part of therapeutics, we are now witnessing—a welcome and successful salvaging of the various methods concerned from the dark and devious toils of the quack. This rescue of physical methods from the limbo of pseudoscience, and their establishment on sound physiological and physical principles, has opened up a large field for investigation and for exploitation to the advantage of practitioner and patient alike. Some specialism is inevitable here also, since the various methods concerned require concentrated study, experience, and technique. Manipulation and massage, actinotherapy, electrotherapy, balneology, scientifically pursued, will sooner or later oust the osteopath, the bone-setter, and the mere turner on and off of electrical and other switches, always provided the indication given by the patient's disease is not in the direction of sheer humbug. In the latter case there is still material for the quack, for, as is said of nations and their governments, so patients, for the most part, get the doctors they deserve.

The scope does not end here. Man is a rational being, and an emotional one. He has illnesses of the mind as well as of the body; indeed, it is a truism to say that we must treat his mind as well as his body, or, as it is frequently put, it is necessary to treat the patient as well as his disease. Sometimes it is his mind that requires the major consideration,

or even the whole of it. Fear is the arch enemy, and quite frequently holds the last fort that we must assail. This makes room for the psychologist. Whilst we must all of us be psychologists in spirit, and whilst it behoves us to be so also in training, some of us must concentrate intensely along this path, so as to be facile in handling the problems and diseases of the mind when this is the main seat of the disease.

Lastly, there is preventive medicine, perhaps the greatest of all the developments of modern medicine: further scope still for a full and satisfactory career. I will not stay to analyse the special requirements for taking up this branch of our science and art, but the attraction it holds out for some of you will undoubtedly make itself felt, and you will join the growing army of medical officers of health, upon whom the public relies to preserve it from disabilities and wastage of effort, before disease arrives, rather than to struggle with disease after it has developed.

In view of all this it seems clear that medicine is a very "liberal" profession; it offers a career that is almost too embarrassing in the choice which it offers to our diverse personalities. All the same, within a few years from now, the majority of you will be engaged in what is termed "general practice." That, as I have already said, is the natural outcome of your studies and also, I hope, of your inclinations. It is for efficient service as the personal medical adviser of the citizen that the curriculum is designed, and towards this all your present labours are directed. After all, a medical school is not for the training of specialists, it is for the making of doctors. Specialists will emerge, willy-nilly, in quite as large numbers, and quite as fast, as the public can absorb them to its advantage. And the specialist who has not received that thorough grounding in general medicine which goes to equip a good general practitioner is a danger, rather than a boon, to the community.

GENERAL PRACTICE

Now you must not think that when you enter general practice your career is a fixed and a limited thing. Quite the reverse. The position is still a very elastic one, and it will depend greatly upon your ambition, your energy, your knowledge of your fellow men, and, above all, your conception of the doctor's function and status in society, what sort of a career you will carve out for yourselves. I beg of you to hold the view constantly before you that in proportion as you regard your function as necessary to the happiness and health of the community, so will the community look to you for guidance and help. You will be set apart, both by science and by the traditions of your art, quite as much as the priest is set apart; the knowledge of this fact, and the behaviour which the knowledge induces, will add dignity to your work, and will earn that respect from your fellows which will be your desert.

Much has been written, and spoken, about how to succeed in general practice. But it all turns upon a man's idea of success. And this, again, is very largely a question of temperament. If by success is meant making money, then I do not agree with those who say that the choice of medicine is a great mistake. It is possible to make quite a lot of money by doctoring. It is possible to make quite a lot of money at any business, if a man only spends sixpence out of every shilling he earns. But this is not making a career of medicine; it is, as I have indicated, making a business of it, and this, to speak frankly, is not only possible, it is quite frequently done. And in these cases the investment, constituted by the outlay upon the six years' training to become a doctor, is not at all excessive. If, however, a man wishes to live by more than bread alone, if he wants other interests in life than to see his private fortune gradually mount higher and higher, then medicine gives him this opportunity also. He may play a little, or he may even play much, and work between whiles so as to make his play enjoyable. He can still, on this basis, live free from anxiety as regards his financial position. That is, providing always that his play does not take the form of gambling—i.e., speculating with his earnings. If he does this—and medical men show a terrible propensity for speculation—he will not be free from anxiety. On the contrary, he will be so full of anxiety that his work will lose its interest for him, and will become so perfunctory that it is almost worthless. The psychology of gambling amongst doctors is a subject of some interest; but I must not digress to analyse this weakness. I think it is perhaps allied to another weakness which is not uncommon amongst us, but on that also I must not stay to dwell. But neither in the case of the man who practises medicine (and when I use the word medicine I include surgery) to accumulate money, nor in the case of the man who practises medicine as a background for play, is medicine a *career*. Medicine is only a career for the man who sees in it an opportunity for accomplishing two things—self-culture and the progress of the science and art of healing through the contributions he can make by his individual efforts. That is to say, whereas he enters this field himself raw and uncultivated, and finds medicine arrived at just such and such a point of progress, he leaves it with himself self-disciplined and mentally mature and with medicine ever so little—it may be infinitesimally—advanced as the result of his influence. At first blush this may sound rather sentimental and somewhat high-falutin'. But it is really neither of these. In the first place we have all of us got to do something with life, and it becomes obvious, if we keep our eyes open, that we either grow up or we do not. The healthy thing is to grow up. The unhealthy thing is to remain infantile. A few of us, it is true, develop progeria (premature senility), but that is a comparatively rare disease. There is no other alternative. The poet says: "'Tis better being well than ill." In the more modern parlance it is better "fun" to grow up than to remain immature. Medicine gives us an excellent *milieu* for growing up in. Culture is mental growth. In the second place the pursuit of such an occupation as medicine is not really a sentimental matter, as we all realise, sooner or later. It means much spade work, application, concentration, the struggle with problems that teem with interest, the chase, hot-foot, till the quarry is at our feet. The fact that a fellow human being is the healthier and happier for our labours is an incident, and a very inspiring one, but it is not the cause of our efforts. True, after a time certain habits, which were at first tiresome, become, as all habits sooner or later do become, pleasant. After a while it is difficult to say where disciplined self-expression ends and public or social service begins. We are often credited with being members of a "noble" profession because of this obscurity. It is clearly not in the public interest to destroy this illusion. All the same it is the *milieu*, again, which determines this fortunate estimate, rather than any virtue which lies in ourselves. Whether we actually advance our art or our science a stage further depends upon whether the creative streak is in us or not; and this is a rare gift of the gods,

jealously bestowed; but we can all interpret the steadily progressing mass of medical knowledge which is our heritage and our acquirement in terms of helpfulness to our patients, and so make our contribution to the happiness and to the welfare of our fellows. And, in the best sense of that phrase which otherwise sounds so selfish, "have a good time" in doing it.

The career of general practice itself enlarges and improves as the years go by. The existence of partnerships allows of some useful specialisation as between the various members of the firm, and this is especially so in the provinces. The doctor's work is raised to a higher level, and both he and the patient is the gainer. Decentralisation of hospitals affords another facility. The up-to-date cottage hospital, with paying wards and beds, improves efficiency all round. These things, which make an appeal to the intelligent public, tend to raise the status of the doctor, and to enhance his value in society.

NATIONAL HEALTH SERVICES

The question of a State medical service is one which has caused a large amount of discussion and considerable feeling. The fear that anything like the nationalisation of medicine may come to pass in this country, as least so far as the general practitioner is concerned, is, I think, unjustified. The citizen's right to choose his own doctor is deeply embedded in the public mind, and is likely to determine this issue for a very long time, if not permanently. All the same, the extension of the national health services which has taken place in recent years, and which is still proceeding, appears to be not only in the public interest, but in the interest of practitioners also. Any increase in organisation by which the doctor finds himself better equipped, and less subject to wastage of time and effort, is to be welcomed. The only inalienable factor, without which no good doctoring can really be accomplished, is that preservation of a direct contact of doctor and patient which experience proves to be essential to success. This is the crucial matter which has to be watched. The temperament of the medical man is a pertinent matter in connexion with his type of work. There are some who can only do their best work when the element of complete freedom of action is preserved throughout. There are others who are so constructed that their best efforts are seen when they occupy whole-time posts as part of a scheme for which they are not themselves responsible. Between these two extremes come others who are happiest and most efficient when they mix a certain amount of private work with attendance at clinics which are organised for them, and are run independently of them. Here again medicine, as at present practised in Great Britain, is able to provide an ample choice.

I think I have said enough to justify my contention that medicine is a career that is well worth following, and is one which offers tremendous opportunities to those who enter it. Having entered, however, there are certain obligations laid upon us. I want to touch upon these in closing this short address. A man may be pardoned for plagiarising himself, or at least he cannot be accused of theft if he does so. So I will borrow from myself in my concluding sentences:—

You will find medicine a jealous mistress, but you have chosen her, and if you serve her loyally she will return your devotion in full measure. This does not mean that you will lead small, ignoble lives. You will follow George Wyndham's dictum: "If we cannot makes our lives long, let us make them broad." Indeed, that is a part of your duty. You will need all the antennæ that you can develop so that you can touch people at many points. All this you can do and still be your self, made wise by fusion with life, so that you become an artist and not a mere technician. In your work, however, though you will be tempted to diffuse, you must concentrate. Politics, literature, art—each one will say to you, "Come out and try us," but you will decline. More subtle will be the temptation to stray into some by-way of medicine itself, something that promises the panacea that men crave for. You will resist this also. You will be chary of the short cut, the royal road, and the leap that science, no more than nature, never takes. Always you will keep an open mind. It will be well if you add to your daily prayer: "Save me from obsessions." You will remember that, just as in life nothing can bring men peace, so in medicine nothing can bring them health, but the triumph of principles. This thought reminds me of Sydenham, the father of English medicine, and I cannot more fitly end these remarks than with a quotation from him. He is concluding his "Epistolary Dissertation," and he says, "And now, worthy Sir, I desire you to accept this small treatise favourably which was designedly written to return you thanks for your approbation of my other works. And indeed, I have so seldom received anything like approbation, that either I have merited no such thing, or else the candid and generous men whom nature has framed with such excellency of mind as to know how to be grateful, are very few, . . . yet, notwithstanding, I endeavour all I can and will do so, to learn and promote the method of curing diseases, and to instruct those who are less conversant in practice than myself, if any such there be. Let other people think of me what they please. For having nicely weighed whether it is better to be beneficent to men or be praised by them, I find the first preponderates and most conduces to peace of mind. As for fame and popular applause, they are lighter than a feather or a bubble, and more vain than the shadow of a dream."

MEDICINE AND THE LAW

Coroner and Witness's Name

AT a Croydon inquest last week the identity of a young woman who gave evidence was not disclosed. The deceased had been killed by a motor-car near his home. The witness said that earlier in the day on which he died she had arranged to dine with him but, finding that he had been drinking, she declined to carry out the arrangement. At the close of her evidence a man asked the coroner why the witness's name had been suppressed. He claimed that it was a public court and that, as a member of the public, he was entitled to an explanation. Dr. Beecher Jackson, the coroner, rightly refused to have his discretion questioned. He answered that no public explanation would be given; there was, he added, a perfectly good reason why the name should be suppressed.

It is unnecessary to emphasise the wide power of the coroner to ensure privacy in proper cases. As is said in "Jervis on Coroners," it is a power necessary for the due administration of justice, and it is impossible that the proceedings should be conducted with due order and solemnity, and with the effect that justice demands if the presiding officer has not control of the proceedings. The practice of withholding a

witness's name is at present being freely used by High Court judges at assizes in the effort to stamp out the odious crime of blackmail. This is done either by directing that the name of the prosecutor shall not be mentioned in court or by asking the representatives of the press to see that the name does not appear in reports of the case. If some member of the public stood up in court and asserted an abstract right to know the name of the prosecutor in blackmail proceedings, the judge would speedily disillusion him.

The Dustman and the Gas Cylinders

An unusual claim against a medical practitioner for damages for negligence (Pattendon *v.* Beney) was dismissed with costs before Mr. Justice Horridge on Oct. 6th. Two dustmen at Bromley, calling from house to house to collect refuse, were asked by a doctor's wife to take away four metal cylinders. The dustmen did not know what the cylinders contained; they put them in a pail at the back of the dust-cart and drove on to the next house. One of the men, subsequently collecting at another house, heard a loud explosion. Going back to the road he found his mate sitting by the roadside evidently in great pain. One of the cylinders lay in the road with its cap off. The injured man died next day in hospital, his injuries being apparently due to a severe blow in the stomach. The widow claimed damages for herself and her children. Her counsel argued that the cylinders were dangerous explosives. On behalf of the defendant doctor it was said that these were old cylinders; the doctor had examined them previously and had come to the conclusion that there was nothing in them; neither the doctor nor his wife had any knowledge that there was even any potential danger in the cylinders. Great force, it was said, was necessary to remove the cylinder cap. To avoid the expense of a re-trial it is usual nowadays to put a series of complicated questions to the jury. To the questions put to them in Pattendon *v.* Beney the jurors answered as follows: (1) there was not sufficient evidence to prove that the death was due to the explosion of the cylinder, but, in their opinion, the cause of death was the handling of the cylinder; (2) assuming that the cylinder was dangerous in the condition in which it was given to the dustman, the defendant doctor did not know, but ought to have known, that it was dangerous; (3) the deceased was not guilty of contributory negligence. The jury went on to award £600 damages, but after legal argument as to the effect of the findings the judge declared that the action failed.

The case against the doctor was that (*a*) the cylinder was dangerous because it might explode, and (*b*) it did explode and the explosion caused the death. The jury, Mr. Justice Horridge said, found that there was not sufficient evidence that the explosion caused the death. The judge observed that the cylinders were constructed to withstand great pressure from the inside; they could have had very little gas in them; in the judge's opinion there was no danger in giving them to the dustman. The judge naturally had to consider the effect of the jury's findings that the doctor ought to have known (but did not know) that the cylinder was dangerous. Here he referred to one of his own previous decisions, Bates *v.* Batey and Co., delivered in 1913. A boy had lost an eye through the bursting of a ginger-beer bottle in the process of opening the bottle. There was a defect in the bottle of which the ginger-beer manufacturers did not know, but which they might have discovered with reasonable care. On that occasion the judge held that the manufacturers were, in the circumstances, not liable, and incidentally that a ginger-beer bottle is not in itself a dangerous thing. Last year the House of Lords dealt with another ginger-beer bottle case (M'Alister *v.* Stevenson) where the presence of a snail in the bottle was alleged to have caused illness. Mr. Justice Horridge observed that Bates's case had been mentioned during the arguments in M'Alister's case but had not been overruled; he therefore proposed to follow Bates's case in dealing with the gas cylinder, and to hold that the doctor was not liable if he did not know (though he ought to have known) that the cylinder was dangerous.

The ginger-beer bottle cases involved peculiar legal questions of privity of contract as between the original manufacturers and the ultimate consumer, as the latter did not buy the bottle directly from the former. These questions do not arise where a dustman is given a gas cylinder by a householder. In Bates's case the judge reviewed several other decisions about things alleged to contain inherent danger. There was one about a defective lamp (where the defendants had no reason to suspect latent defect, but had they been expert technical engineers might have realised the danger), another about a defective gun, and a third about a vicious horse where Mr. Justice Lush had seemed to favour the view that if the seller of the animal ought to have known of its vice his actual ignorance thereof was immaterial. In the cylinder case, if it is the province of the judge to rule whether or not the thing is dangerous, Mr. Justice Horridge seems to have settled the matter finally. More, however, may yet be heard of it, for a stay of execution was granted with a view to appeal.

PARIS

(FROM OUR OWN CORRESPONDENT)

THE GRANCHER SYSTEM IN 1932

RECENT statistics of the application of the Grancher system of isolating children from tuberculous families were presented to the Academy of Medicine recently by Dr. Armand-Delille. During 1932 alone as many as 6044 children were placed in healthy homes. The Grancher system has for some time been linked up with Calmette's system of B C G inoculation, and the child found to give a negative skin reaction to tuberculin is inoculated with B C G. A negative Pirquet reaction is not a necessary qualification for transfer of a child living in tuberculous surroundings to a healthy home in the country. A skiagram of the lungs however is required and any changes visible in the lungs or glands disqualify a child for treatment under the Grancher system. The clinical examination also must be negative. The results obtained by the Paris branch of the Grancher system between 1907 and 1931 are held to be encouraging. During this period only 12 out of 4000 Grancher children developed tuberculosis—a morbidity of 0·3 per cent., as compared with a morbidity of more than 60 per cent. among the children remaining in tuberculous surroundings. Similar striking differences were observed in the tuberculosis mortality—1 per cent. instead of 40 per cent. The general mortality, including that from gastro-enteritis and broncho-pneumonia, was 6 per cent.—a ratio which corresponds approximately to that observed among other children placed out with foster parents. The Grancher system with its various branches is mainly financed from private sources; of the more than seven million francs

contributed in 1932 only one and a half million were provided by the State.

"LES AVORTÉES"

A book just published by a medical author, Dr. Gonzalve-Menusier, has caused some stir, since its object is not only to thrill but to educate. Whether the public likes its fare to be so mixed is not yet clear. The hero is a Dr. Maillard, in general practice. He is consulted by one woman after another, all coming to him with the request to procure abortion. There is the young girl who, under the influence of dope, has become pregnant; there is the girl who has been promised marriage and then denied it. Dr. Maillard turns a deaf ear to all these requests, but encounters the cases later in hospital or the post-mortem room, someone else having been more complacent than himself. There are scenes in a court of justice where the author displays his sense of the dramatic while betraying his ignorance of French medical jurisprudence. The latter does not really matter much, for the book makes no claim to be educational in a legal sense. It certainly draws attention to a problem which is disturbing medico-legal authorities in many civilised countries at present—whether the morbidity and mortality due to surreptitious attempts at procuring abortion do not justify alteration in the law.

A FRENCH MEDICAL CONGRESS ON WINE

On Sept. 7th "Les Médecins Amis du Vin de France" held their first national congress at Bordeaux. Among the objects of this congress was the scientific study of the action of wine on the human body in health and disease, and more than 200 French and foreign doctors attended. Prof. Baglioni, of Rome, contributed a paper in defence of wine. Its physiological properties were discussed by Dr. R. Fabre, and the influence of wine on the appetite by Dr. Malachowsky.

SCOTLAND

(FROM OUR OWN CORRESPONDENT)

SURVIVAL OF THE VOLUNTARY HOSPITALS

In an address lately given at Dundee, Dr. R. W. Craig, Scottish medical secretary of the British Medical Association, pointed out that the financial state of the voluntary hospitals is becoming somewhat precarious. Local authorities have the power, except in cases of infectious disease, to charge patients for maintenance and treatment. Voluntary hospitals in general have no such power—some because of their charters and some because of peculiar limitations to the necessitous poor. But since the future of the voluntary hospitals must be assured, the people treated in them—other than the destitute—must be asked, either directly or through some organised insurance scheme, to pay charges appropriate to their incomes. At the same time hospitals could no longer be left to the uncertain operation of charity, and Dr. Craig advised a scheme of coördination between all institutions, whether voluntary or municipal, in the same area. If, for example, in an industrial area, a voluntary hospital had been established to deal principally with accidents and other surgical conditions, the other hospitals in the area, whether voluntary or statutory, should make special provision for dealing with medical cases. He referred to the Aberdeen system, which ran on these lines. With regard to out-patient departments, many patients were treated there who could quite properly be referred to their own doctor; conversely, more facilities should, he thought, be given to the general practitioners for treatment of their patients in hospital. There was also, he said, a growing feeling that the staffs in the voluntary hospitals should receive some financial recognition for their work.

Dr. Craig's address was given before the Scottish Council of the Women Citizens' Associations, and in the discussion which followed Lady (Leslie) Mackenzie said that one general principle to get into everyone's mind was that the hospital should become the sick-room of the ordinary man's house. Houses to-day were not built for being ill in. If arrangements were a little better it would not be necessary for nurses to become wardmaids for their first year or two of training. That necessity arose because the voluntary hospitals could not pay for cleaning. In Russia, she understood, things had gone to another extreme and they were making medical students learn to scrub simply as a disciplinary part of their curriculum.

THE CAMERON LECTURE

This year the University of Edinburgh was fortunate in securing Prof. George F. Dick, of Chicago, and his wife, Dr. Gladys H. Dick, for the Cameron lecture. The anatomy theatre was filled to overflowing. After Sir Thomas Holland, principal of the University, had introduced the lecturer and had recalled that previous Cameron prizemen included Pasteur, Lister, Ross, and Madame Curie, Prof. Dick described the series of experiments that led to the preparation of scarlet toxin and antitoxin, and the prophylaxis and treatment of scarlet fever. It ought to be possible, he said, by the use of his methods to bring an epidemic of scarlet fever under control within 48 hours, even if it still is impossible to state exactly the proportion of persons naturally immune.

THE LATE DR. W. M. SELBY

I regret to note the death of Dr. William McDowall Selby, J.P., of Portwilliam, Wigtownshire. He was born in 1873, and as a young graduate was considered likely to attain to a distinguished place in the Edinburgh profession. But he elected to succeed his father, who was well known as a practitioner in Wigtownshire for over 40 years. One interesting fact I learnt from him—namely, that he had attended a case of leprosy for some 30 years. There are not many known cases of leprosy in Scotland now.

The younger Selby inherited his father's personal charm and made his mark in the county, retiring after 35 years of professional work. His two sons are also medical.

SALARIES OF HOSPITAL OFFICERS

For reasons difficult either to explain or to justify, medical salaries in Scotland are usually below the corresponding salaries in England. Dr. W. T. Benson, medical superintendent of the Edinburgh City Hospital, has been saying that he sometimes finds difficulty in getting resident doctors. Owing to alterations in the D.P.H. regulations, men working for the diploma can no longer undertake this work, and there are so few applications that there is no longer any question of selection; the hospital authorities have to take the first man who comes along. The problem, he said, is largely one of salaries. Whereas in Edinburgh the total salaries bill of assistants in the City Hospital is £700 a year, the bill in hospitals of similar size in other parts of the country ranges from £1700 to £3000.

THE BED-BUG

The Department of Health for Scotland have done well to publish the research paper by Dr. William C.

Gunn, senior assistant medical officer of health for Glasgow, on the habits and character of the bed-bug. This document should be of the greatest service to medical officers in enabling them to track the breeding-places. The main problem for the moment is to prevent the bugs invading the new houses in Glasgow and elsewhere, where they are one of the most loathsome features of the slums. In Edinburgh, Dr. Guy has received many complaints about the infestation of new houses by bugs, and special measures of disinfestation are being elaborated. It is proposed to introduce the Manchester scheme of disinfestation.

THE CELL BARNES COLONY

THE Cell Barnes Colony, a certified institution for the care and treatment of the mentally defective, designed to accommodate 600 persons, was opened on Oct. 5th by the Minister of Health. At present 400 defectives are to be taken from Hertfordshire and 200 from Middlesex. The Colony is situated near St. Albans, Hertfordshire.

The first members of the staff arrived early this year, and the first patients in March. Already 123 male and 117 female patients are in residence. The Colony consists of ten blocks, five for each sex, which are built in semi-circles, according to the design of Mr. J. M. Sheppard, F.R.I.B.A. The administrative and hospital blocks, kitchens, and laundry divide the two parts.

Each house can take 60 patients, and is built in a plain but pleasing Georgian style on two floors. Externally the houses are more or less the same; internally they differ in details of decoration and arrangement of some of the rooms. Each house is self-contained, with a large airy day ward on each floor and a dormitory leading off it. Adequate baths and washing facilities are provided, and a small kitchen deals with the china washing up and light meals. The main meals are brought over from the central kitchen on hot trolleys. Each house has a good-sized garden area on the south side, at present surrounded by wire fencing; it is hoped that shrubs and other plants will soon be planted round each enclosure (at present it has a Whipsnade appearance). The patients are graded as far as possible by their mental age. The children's block is particularly attractive and cheerful, with coloured pictures and bright curtains. As yet there are not many children, but those seen were obviously happy and well cared for.

The women patients were washing cotton dresses, mostly of a varied flowered design, made on a simple but not uniform pattern. The dresses have all been made in the Colony by the women and girls. A contrast in dress was provided by a few proud members of the Colony's girl guides, who were conducting visitors from one block to another. The patients are kept under supervision for some weeks on arrival, and are then graded to suitable blocks. The high-grade girls help in the laundry and sewing room, and also with domestic work in the nurses' home. The men and boys work in the gardens, carpenter's shop, and kitchens. There is one house on each side for the more responsible patients who have parole of the Colony, and some may be trained to earn their livings outside the Colony, being kept under supervision and recalled if unsuccessful.

The hospital has four wards, two for each sex, with a good operating theatre and laboratory. This block will be staffed by female nurses, and is in charge of a doubly qualified sister. The kitchens are large and up to date. The cooking staff is assisted by male patients who help in the kitchen and take the hot trolleys round to the various blocks at meal-times. In the laundry a man is in charge of the washing machines, but a small staff of four, with the assistance of girl patients, are responsible for all the hand-washing and ironing. Modern electric irons and a roller machine for sheets are in use. A workroom deals with the mending and dressmaking for nurses and patients; the tailoring is done by the men.

The recreation hall, fitted with a stage, will accommodate the whole Colony, and is an example of the cheerful atmosphere of the Colony. An old house on the edge of the estate has been converted into a nurses' home, and a long wing has been added. Each nurse has a small electric fire in her room, and the common rooms and writing-room are cheerful and comfortably furnished.

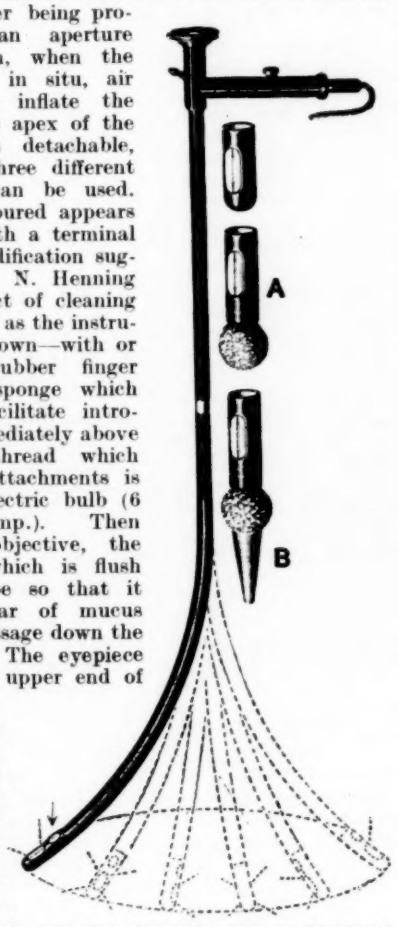
The total area of the Colony, which is under the medical direction of Dr. Noel Burke, is 95 acres. The grounds are now being prepared for recreation and market gardening.

The architects are Messrs. J. M. Sheppard and Partners, 38, Bedford-place, London, W.C.1.

NOTTINGHAM GENERAL HOSPITAL.—Lady Galway recently opened two new wards which have been added to The Cedars, Sherwood, as an enlargement of Nottingham General Hospital. The 40 beds thus added bring up the accommodation to 110 beds. For many years The Cedars, originally a private house, was used as a convalescent home for the hospital.

THE NEW GASTROSCOPE

OUR comments last week on the flexible gastroscope devised by Prof. R. Schindler and Mr. J. Wolff have aroused interest in the details of construction and use of the instrument. Its total length is 68 cm., the length of the flexible part, which contains a row of biconvex lenses in contact, being 38 cm., and the diameter 11 mm. It consists of a flexible elastic part, furnished with two black rubber covers, the outer cover being provided with an aperture through which, when the instrument is in situ, air is passed to inflate the stomach. The apex of the gastroscope is detachable, and one of three different attachments can be used. The most favoured appears to be that with a terminal sponge—a modification suggested by Dr. N. Henning with the object of cleaning the œsophagus as the instrument passes down—with or without a rubber finger beyond the sponge which is said to facilitate introduction. Immediately above the screw thread which secures the attachments is a powerful electric bulb (6 volts, 0·4 amp.). Then comes the objective, the window of which is flush with the tube so that it is wiped clear of mucus during the passage down the œsophagus. The eyepiece is set at the upper end of the rigid part, and the length of the instrument is calculated so that when a white mark on this part passes the teeth of the patient the objective will have reached the stomach. All parts of the gastroscope with which patient or operator come into contact are insulated.



Showing that the gastroscope can be turned on its axis in any position, like a rubber tube. The angle of vision is 60°. **A**, terminal attachment with sponge; **B**, with rubber finger beyond sponge. Arrow points to objective.

DIRECTIONS FOR USE

Dr. Schindler gives detailed directions for the use of the instrument. Half an hour before the examination he recommends the injection of half an ampoule of Dicodid, together with ½ mg. atropine sulphate. Plenty of time must be allowed for anæsthetising the throat, and the anæsthesia should be complete, so that the patient does not "notice any serious pain." It is effected by a systematic painting of the base of the tongue, the soft palate, the tonsils and uvula, and the posterior wall of the pharynx with 2 per cent. pantocaine, to which a few drops of suprarenin 1 in 1000 has been added. Only when the posterior wall of the pharynx is insensitive does the operator proceed to anæsthetise the upper end of the œsophagus through the constrictor of the pharynx, which sphincter must be made to relax. When anæsthesia is established, a stomach-tube is first inserted and withdrawn, and any fluid present in the stomach evacuated by lowering the head of the patient.

The patient is placed on his left side and told to breathe quietly, and to let his head rest lightly in the hand of the assistant, who bends it back slightly. The lubricated rubber attachment is then slipped over the base of the tongue into the hypopharynx. The operator holds the instrument with his right hand as close as possible to the flexible end; the left first finger is placed in the mouth of the patient to prevent the point of the gastroscope from going into the left lower sinus pyriformis, by pressing it, if possible, on to the backbone. During this part of the process the rigid part must be held by a second assistant. After it passes the constrictor pharyngis the instrument is quickly pushed forward, while the assistant who holds the head lowers it a little more. All these movements must be carried out without force. The instrument must slip easily. When the white mark on the rigid part has passed the teeth of the patient, the objective has reached the stomach, but the gastroscope must be passed as far as possible. As the instrument bends along the back wall of the stomach sensitive patients notice an uncomfortable pressure. When the instrument will not go further the lamp is switched on, and the stomach is inflated with air by pressure on a net-covered ball. During this the small nob on the eyepiece is to be directed towards the abdominal wall of the patient—i.e., to the left side of the examiner. The slow inflation is continued until a view of the stomach wall is obtained. Then the head of the patient is turned to the left, and the antrum and pylorus looked for. After a thorough examination of all parts of the stomach the gastroscope is quickly removed and cleaned at once under the water tap, and rubbed with alcohol to sterilise it. The patient is informed that through the anæsthesia the throat will remain uncomfortable for two or three days. Whether and how long the patient must rest after the examination depends entirely on his sensitivity to dicodid, pantocaine, and suprarenin.

All parts of the instrument can be replaced; the rubber covering is said to last a long time with normal use. Directions for changing it are supplied with the new cover on demand. Contra-indications to the use of the gastroscope are aneurysms of the aorta and stenoses of the œsophagus and the cardia. It is better to abstain from gastroscopy if the presence of varices of the œsophagus or cirrhosis of the liver is suspected, and in cases of dyspnœa and cardiac conditions. Dr. Schindler, while pointing out the great advantages of the instrument, to which we have already drawn attention, emphasises[1] the fact that the method of using it must be carefully learnt and taught, and that the interpretation of the pictures seen is extremely difficult. The use of this instrument by experts is, however, expected eventually to facilitate diagnosis to a remarkable degree. The English agents for the instrument are the Genito-Urinary Manufacturing Co., and its price to-day is 950 Reichsmark in Berlin, or plus 50 per cent duty, £110 in London.

[1] Münch. med. Woch., 1932, lxxix., 1268.

PANEL AND CONTRACT PRACTICE

A Discussion on Insurance Problems

A CONFERENCE between representatives of approved societies and representatives of the medical profession was convened by the London insurance committee and held at the County Hall on Oct. 5th. There were 16 representatives of approved societies who were members of the insurance committee and four others. The London panel committee sent 20 of its members, many of whom had never before met any of the members of the insurance committee. The chairman of the insurance committee said he was sure everyone had come to try to help on the administration of the Act, to try to see the other man's difficulties, and to do what he could to help to avoid them. Sir Thomas Neil also spoke in the same sense.

MARRIED WOMEN AND PREGNANCY

The first subject of discussion was certification of pregnancy and other problems involved in the medical certification of married women. The approved society representative said that many women come up for a certificate because they think they should not have to work during pregnancy; others because employers refuse to employ them when pregnant; others, again, because their appearance is abnormal. He asked doctors not only to resist certification on these grounds but also to stick to the legal criterion of whether the woman is incapable or not within the meaning of the Act. The patient's occupation was of course important; many of them could not do their usual work but could do their housework. Could that be considered as a temporary alternative occupation? It would help societies if some period of gestation, or the date of expected confinement, could be put on the certificate, with a statement whether there was any associated abnormality, such as varicose veins. Societies were not anxious to refer such cases to regional medical officers, for references pleased nobody.

The answer from the medical side was that the certification of pregnancy was causing more difficulty than anything else; no two societies treated their cases alike; some referred every case, some always allowed a month's sick pay without hesitation. There were cases in which pressure was put on the doctor to grant a certificate by agents of societies as well as by relatives or friends. Nobody—doctor, patient, or society—really knew where they stood.

A suggestion was made that there might be a pregnancy benefit for every pregnant insured person dating from a specified time, such as four or eight weeks before confinement; or alternatively there might be an increase in maternity benefit; but no pregnant woman should then be entitled to sickness benefit for pregnancy, or for any complication arising out of it. It was also pointed out that doctors differ about the desirability of rest. That part of the Ministry which dealt with sickness benefits for married women issued pamphlets on capacity to work when pregnant which were very differently worded from those issued by the part of the Ministry which dealt with infant welfare. The latter strongly advocated rest, and sick visitors were sent to insist on it if possible. There were professional difficulties about putting the period of gestation on a certificate form, not excluding the possibility of resultant proceedings before the medical service subcommittee.

There was not so much discussion of the certification of married women in general, but in reply to one suggestion that married women should not be insurable at all it was pointed out that one of the principles of the Act was that *any* wage-earner should receive recompense if he or she became incapable of work through illness. Another proposal was that doctors should be asked to certify whether a woman was fit to do housework. This is frequently done by regional medical officers but never by the insurance practitioner.

CERTIFICATES ON A PARTICULAR DAY

The next discussion was introduced by the medical side, on the demand for certificates on a particular day of the week. The speakers said they realised that in some areas the agent had many miles to travel, and it was convenient for him to get the new certificate on the day he paid out sick pay. But was the system of book-keeping so inelastic that these agents must pay up to the full week? The demand was impracticable from the doctor's point of view; it led to waste of time and even of medicine, for the patients often asked for a new bottle when they came for a certificate, and wasted the remains of the old bottle in order to get a refill. The reply for the societies was that each day was very important financially, and yet about 40 per cent. of people "declared off" on Saturday. The pay day at the end of the week originated with the old friendly societies, to enable their members to get money for their Sunday dinner. Agents were dealt with firmly if evidence in writing could be obtained showing that they had demanded certificates on a particular day. It was thought more use might be made of that part of the certificate which says, "You should come to see me again on . . . ."

NATURE OF INCAPACITY

From the next discussion it appeared that what the societies want is an indication, as early as possible, of what is the matter with the patient—chiefly, it seemed, so that compensation might be obtained where it is due. Incomplete information puts the lay official in a difficult position, and practitioners were asked not to rely too much on a patient's statement as to the cause of his illness. One case was certified as gas poisoning on the patient's statement, yet on investigation it was found he did not work in or near gas. The other instances given were not happy from the societies' point of view, for the certificates contained quite clear medical indications of the sequence of events. The societies' representatives pointed out that venereal disease is known to occur among a number of workers, but is hardly ever mentioned on a certificate. The medical reply to these criticisms were, first, that alteration of diagnosis on certification led the society to think the doctor was doubtful; hence the original diagnosis was often persisted in. Secondly, doctors were not detectives and often had to accept a patient's statement, e.g., as to where he was working. Thirdly, most patients with venereal disease got free treatment from a clinic or else went to another doctor; moreover these diseases were not as a rule incapacitating. Both sides agreed that very little use was now made of the special certificate form Med. 40 D which enables a practitioner to state less precisely on the certificate the cause of incapacity. This, of course, goes to the local agent, but when it is used the doctor has also to write to the regional medical officer giving the facts of the case. Both sides, again, attacked the Ministry about its suggestion in a memorandum

that cases of catarrh, gastritis, menorrhagia, and other disorders should be referred as soon as possible to the regional medical officer; but it was subsequently pointed out by a representative of the Ministry that this procedure was advised only if the report of the sick visitor was unsatisfactory.

CONTROL OF SICKNESS BENEFIT

In the last discussion the opening statement of the societies' representative showed the extent of the control of sickness benefit in an ordinary case. The doctor's certificate practically amounts to a cheque on the funds unless the member's record is bad or unless something suspicious happens—in which case the patient is sent to the regional medical officer. Claims are still excessive, and the coöperation of the profession was asked to find ways and means to stop the loss. Another speaker pointed out that 613 doctors in London, out of 1983 principal doctors under agreement with the committee, have less than 250 patients each on their list. These men were not likely to have much knowledge of, or interest in, the Act, for the bulk of their practice was not connected with it, and consequently they might inadvertently contribute to excess claims. Another approved society member had investigated claims among 10,000 of compulsorily insured persons in 1932. There had been 1816 claims—i.e., just over 18 per cent.—and if repeat claims were included the proportion was 21 per cent. In the old days people were aghast at 9 per cent. claims. Comparing the compulsorily insured with the voluntarily insured in the same society there were 9 per cent. more claims by the former. It was thought that the voluntary member has a greater sense of responsibility and therefore less pestering incapacity, though he is not less subject to illness than the State member.

Another society member thought it would help if certificates showed whether they were given at home or at the surgery; he thought there was an increase in short claims. Why were different form of words used by the regional medical officer and the insurance practitioner? The former says "not" incapable of work, the latter says "fit to resume"; they hardly meant the same thing. The time might arrive when, as in Germany, the patients had to pay for their first attendance or for medicine.

In the course of medical replies it was pointed out that certification had a bad start under old club system, where, however, members looked better after each other and did not feel that there were unlimited funds to draw on. Certification was much better than it was.

THE POSSIBILITY OF ACTION

Having dealt with only four out of ten items on the agenda, the meeting adjourned after a short speech by Dr. William Duncan, a divisional medical officer of the Ministry of Health. The English system, he said, was very good when the rules were followed, and it had been largely copied in other countries. Both sides had said they would like to deal with each other directly: how different it had been in 1912 when the profession would have nothing to do with societies at all!

It will be observed that many interesting and at times new suggestions were talked over in a friendly way. The question arises as to how results can be obtained. A conference has no locus standi, and must therefore set up some body or refer the points to some committee that can take action. The main negotiating committee for the medical side of controversial questions is the Insurance Acts Committee. The approved societies have more than one negotiating body, but probably the National Association of Insurance Committees would be their strongest and their most representative body. It is probable that this conference will refer all matters for discussion first of all back to their own respective committees—the panel and the insurance committees for London. These have a joint consultative committee, and if an agreed proposition could be obtained it would then go to the Insurance Acts Committee and the National Association for their approval with a view to incorporation in regulation, if approved *also* by the Ministry.

The Unemployed

At a meeting last week the Middlesex insurance committee decided to oppose any proposal for retaining under the National Health Insurance scheme those who have fallen into arrears by reason of unemployment. It was argued that the unemployed had been secured in their right to medical benefit without payment of contributions for at least three and a half years, and that this concession was a departure from the principles of the Act. If it were persisted in it would inevitably lead to reduction of benefits to those who did pay their contributions. The alternative was a special subvention to the National Health Insurance Fund, for which, the committee held, there was no justification. No hardship, it was suggested, would be inflicted on those affected if they had to seek medical benefit through the public assistance committees, inasmuch as many more had to look to the same source for such help. The number concerned, estimated at 80,000, did not justify a departure from the vital principle that benefits depended on the payment of contributions. One speaker, however, urged that medical benefit should be continued to the unemployed so that when the depression lifted—perhaps in two years' time—more of them would be physically fit to take up employment.

The Future of Health Insurance

The possible extension of benefit to the dependants of insured persons was the topic which aroused most interest at the twenty-first annual conference of the Scottish Association of Insurance Committees, held at Aberdeen on Sept. 29th and 30th. Mr. A. Clark, in his presidential address, said that in certain quarters there was a growing feeling that the ultimate solution would be found in what was called an "all-in" insurance scheme, embracing the whole range of social insurance. The subject was vast and complicated, but a survey of the international position led to the conclusion that although social insurance was now almost universally recognised it was far from having attained its maximum force. Curiously enough, however, even during the period of persistent unemployment the number of insured persons in Scotland had been steadily increasing. The past eight years showed an increase of 240,000, and the total number now entitled to medical benefit was 1,904,000, which was equal to 40 per cent. of the whole population. In any extension to dependants the receiver of the benefit ought to pay for it; the employer already bore a sufficient share of the burden by contributing towards payment of the workman's premium. The probable number of dependants was at least equal to the number of the insured, and assuming that the insured persons and their dependants account for 80 per cent. of the total population, the benefits of the panel system ought to be extended yet further so as to include, first, the legal poor, including the destitute able-bodied unemployed, estimated at 5 per cent. of the population, and, secondly, that

large class of shopkeepers, artisans, and others who are at present without the benefit of insurance, although their economic position may be no better than that of the insured.

Whether this new benefit should be on a compulsory or on a voluntary basis is a matter for argument, said Mr. Clark. It was agreed, however, that the general practitioner scheme must be extended so as to provide hospital treatment and specialist services. The demand had become clamant, and was only partially met by the voluntary hospitals and the various contributory schemes now in existence. Under a complete coördination scheme the services of panel doctors could be utilised to a far greater extent than at present in discharging various duties under the Public Health Acts such as those connected with nursing, tuberculosis, child welfare, and school inspection, much of which is now done by specially appointed officials. The family doctor would thus become an important worker in general public health.

CORRESPONDENCE

LETTERS BETWEEN CONSULTANT AND PRACTITIONER

To the Editor of THE LANCET

SIR,—I do not know Mr. C. Robinson, the rhinologist to the Loamshire Hospital, but I think it is rough luck on him that you should pillory his bad report on a case by publishing it (Oct. 7th, p. 837), especially when it is clearly stated to be confidential.

I wonder whether it is a coincidence or by intention that out of the thousands that must now be available you choose a letter in reply between family doctor and consultant which illustrates one of the disadvantages of this form. It is possible that the nose rivals even the abdomen to-day as an area of the body on which unnecessary operations are performed, and the greatest cause of this is that they are advised without due consideration. It is very rarely that we should plump for operation on the nose at a single examination, or without seeing first how much relief can be obtained by some applicational or general treatment. The conditions under which we work in London at rhinology and otology tend to compel us in that direction. We cannot have the patient up daily or several times a week for some treatment that cannot be applied by the family doctor or by the patient himself, but needs the attention of a junior assistant or specially trained nurse working under the supervision of, or instruction from, the chief of the clinic. This class of work is best seen in a small centre such as Munich, and is very difficult to follow out in London, with the result that we all tend to advise operation against our better judgment at the first examination of the patient, instead of seeing him once or twice more first. This is particularly liable to happen in cases of suspected sinus disease sent up by a doctor, because in a busy clinic it is so hard to remember to send him the second note when the investigation is concluded; and then the patient drifts into that group of cases coming up weekly or fortnightly, having the medicine and treatment changed, and being converted into the chronic invalid. These cases are just as worrying to the head of the clinic for their presence as they are annoying to the family doctor for their absence.

Mr. Robinson is evidently young. Otherwise he would have known that he should have given Dr. Smith the opportunity of disagreeing with the operation before making arrangements for the patient's admission. It would have been better had he added the words "subject to your approval." Two things, however, show him to be a good fellow and therefore worth the trouble of this letter. He makes his decision as a result of anterior rhinoscopy, and not by a guess after transillumination and radiography, and he crosses out the Sir/Madam of the form and puts in Dr. Smith's name. The personal touch between practitioner and consultant is of value to the patient, and tends to be lost by the use of these forms instead of the old-fashioned notes. May I suggest that when they are reprinted a row of dots replace the Sir on one side and the Sir/Madam on the other. Incidentally, why not Sir/Madam on both. Are we to assume that the panel committee for London does not require the woman consultant?

I am, Sir, yours faithfully,

London, W., Oct. 7th, 1933. T. B. LAYTON.

TUBERCULOSIS OF THE LARYNX

To the Editor of THE LANCET

SIR,—On reading in your issue of Sept. 23rd the report of the discussion at the B.M.A. meeting in Dublin on Tuberculosis of the Larynx, I find myself in entire agreement with the remarks of Dr. F. R. G. Heaf, but must differ from the statement attributed to Mr. H. S. Barwell. He is reported as saying "that the high altitude of Swiss resorts made these unsuitable for laryngeal cases, which in the early stage might give rise to no symptoms."

It is, of course, possible that a fuller account of Mr. Barwell's paper would show some qualification of this assertion. As it stands, however, it is directly opposed to my experience and to that of the Swiss colleagues with whom I have discussed the matter. It is certainly contrary to the opinion of our visiting consulting laryngologist, Dr. O. Gentinetta, of Sierre, who, for nearly ten years past, has followed the course of laryngeal tuberculosis in hundreds of patients, both in the Rhône Valley and at Montana—a difference in altitude of approximately 3500 feet. Dr. Rüedi, the well-known laryngologist of Davos, who has had exceptional opportunities of observing results in this complication of pulmonary tuberculosis, should be able to disprove authoritatively the reported account of Mr. Barwell's views.

Since Montana Hall was opened at the end of 1930, excluding those at present in residence, 29 patients with laryngeal tuberculosis have been treated here. In 13 of these the disease appeared clinically healed on or before discharge. One of these developed later intestinal tuberculosis, with aggravation of the pulmonary condition and subsequent death, but there was no recrudescence of laryngeal activity. This is in conformity with Dr. Heaf's observations. In eight patients, on departure, the disease in the larynx was improved but not yet completely healed. In two advanced pulmonary cases the laryngeal lesions remained stationary. In three very advanced cases, all of whom died after leaving this institution, the laryngeal disease was worse, and the three remaining patients died in the sanatorium shortly after arrival. With regard to those patients who did badly all were sent here in a toxic state, and with extensive and destructive lesions of the lungs. They would, in my opinion, have done equally badly wherever treated.

Fishberg, with his vast experience of the effect

of many different climates and altitudes in America; specifically mentions in this regard only "advanced" laryngeal lesions as being a contra-indication to treatment at a "high altitude." Cold dry air, as met with in the Alps, is likely to increase the discomfort of those patients who have much associated œdema, particularly of the epiglottis, and such patients should not be sent to the mountains. It has been my experience, however, that these cases do no better at a lower altitude. The prognosis, in fact, as some of the speakers in Dublin pointed out, depends essentially on the condition of the lungs, since it is the nature and response to treatment of the pulmonary disease which almost uniformly determines the nature and course of the laryngeal lesions.

The 21 patients who did well showed varying degrees of infiltration, ulceration, and granulation of the larynx—in some cases a combination of all three processes. In none of them was the epiglottis involved. In addition to ordinary sanatorium routine, in particular general rest and rest of the larynx, 11 were treated by a combination of collapse and gold therapy, 6 with artificial pneumothorax, and 5 with phrenic evulsion. Four had sanocrysin without collapse treatment. Two had artificial pneumothorax, and one phrenic evulsion without chemotherapy. Three had no special treatment. In none of these cases was any form of local treatment to the larynx employed.

These experiences are seemingly so at variance with Mr. Barwell's reported statement that I venture to give them this publicity.

I am, Sir, yours faithfully,

HILARY ROCHE,
Medical Superintendent, The British Sanatorium, Montana.

Sept. 25th, 1933.

PHYSICAL EXERCISES IN MIDWIFERY

To the Editor of THE LANCET

SIR,—That puerperal exercises such as those devised by Miss Randell and Miss Morris and described in your issue of Sept. 23rd are successful in practice I can testify from my own experience with them. We started using them in Stonefield Maternity Home 10 years ago and since then have had the opportunity of observing some 1400 cases. The results have been very satisfactory. We are in touch with a number of our patients after they leave the Home (especially when anything abnormal happens to them) and have only heard of prolapse serious enough to call for an operation in two cases. Those who have had a normal figure before pregnancy find they can regain their normal waist measurement by the end of the month. We consider an increase of one inch to be allowable and this is only exceeded by those who have obviously put on weight during pregnancy. Nurses who have previously been accustomed to dealing with patients who do not do exercises in bed notice that our patients get on to their feet much more quickly and easily when the time comes to get up.

For a year we have used the exercises arranged by Miss Morris in the antenatal and postnatal stages and find them entirely satisfactory. She has added an æsthetic element, and most women now enjoy their exercises whereas many find the more ordinary medical ones dull and have to be persuaded to do them. To get the very best results some system of exercises needs to be used throughout pregnancy and the puerperium.

There seems to be very little need for a binder. Some multiparæ who have a very lax abdominal wall and primiparæ who have suffered undue distension find a binder useful and comfortable in the first two days. After that some like to have it back at night but we do not find it to be needed after the fifth day.

Most of our patients do some exercises in the postnatal period. A special form of deep breathing is begun within 24 hours of delivery and another equally simple exercise is taught on the following day. At first all exercises are done lying, then sitting ones are added. One of these arranged by Miss Morris involves full movement of the shoulders and pectoral muscles and this seems to have a particularly good effect in preventing undue engorgement of the breasts. When the patient gets up some of the earlier exercises are discontinued and she is advised to do at home certain selected ones which take about 10 minutes a day.

I am, Sir, yours faithfully,

CYRIL V. PINK, M.R.C.S., L.R.C.P.
Stonefield Maternity Home, Blackheath, S.E.,
Oct. 5th, 1933.

MODERN CARDIOLOGY

To the Editor of THE LANCET

SIR,—There is one sentence in Prof. Hay's St. Cyres lecture I would venture to dispute (THE LANCET, Oct. 7th, p. 794). It is this: "These pioneers laid the foundation on which modern cardiology is built," referring to Mackenzie, Wenckebach, and others. Does he really mean to ignore the experimental production of carditis from rheumatic lesions and to lose sight of the fact that if any investigations threw light on the future of cardiology—whatever that word may precisely mean—those did? Ignored by many cardiologists in this country, other countries more alert realise that the prevention of heart disease—surely one aim of the cardiologist—is intimately bound up with that advance.

I am, Sir, yours faithfully,

Harley-street, W., Oct. 6th, 1933. F. JOHN POYNTON.

CYSTICERCOSIS IN EX-SOLDIERS

To the Editor of THE LANCET

SIR,—An investigation now in progress shows that cysticercosis is responsible for some considerable proportion of cases of epilepsy in the army, particularly—though not exclusively—epilepsy commencing in previously normal adults who are serving, or have served, abroad.

At the date of writing we have records of 49 proved cases of such infestation (with full case histories in 35), but we know that this number is not complete for the period covered. Apart from other and more obvious reasons for failure to recognise cysticercosis, diagnosis as a practical matter may become possible only in course of time, perhaps long after the subject of the infestation has left the army. For example, the onset of epileptic seizures may bring to notice the presence of pre-existing cysts in the tissues; or the appearance of palpable cysts may suggest the real nature of an epilepsy of some standing. Again, the death and subsequent calcification of encysted larvæ not previously detectable may determine a diagnosis by radiological examinations.

It would be of very great assistance in this investigation if any medical man who makes a diagnosis of cysticercus infection in an ex-soldier, whether encountered in an institution or in the course of practice, could see his way to notify the professor of tropical medicine at this college. The information would be still more helpful if it were possible to include with the patient's name his army number, regiment, &c., and the date of his leaving the service, so that his medical history as a soldier could be traced.

It might be advisable to point out that in the great majority of these cases of cysticercosis there is no ascertainable history of infestation with an adult *Tænia solium* at any time; and also that there is no symptomatic feature of the type of epilepsy which may be caused to differentiate it from one or other of the various classical forms of that disorder.

The investigation in question is concerned with the prevalence of cysticercosis in the army, but it is not inferred that the disease is in any way peculiar to soldiers.—I am, Sir, yours faithfully,

W. P. MACARTHUR.

Royal Army Medical College, Millbank, S.W., Oct. 10th, 1933.

RED BLOOD-CELL DIAMETERS

To the Editor of THE LANCET

SIR,—In the review of Price-Jones' text-book on the above subject in your issue of Sept. 2nd it is stated that "None of the short cuts to red cell measurement, as halometer methods or hæmatocrit determinations, give any indication of the degree of variability." This is true of the diffraction-method as first described by me in 1919, 1923, 1924, and 1925, and it is also true of all the apparatus exploiting this diffraction-principle which have been placed on the market since, and which go under the name of halometer, improved halometer, eriometer, and erythrocytometer. But it is different with the improved diffraction-micrometer which I described in 1929.[1] This apparatus gives information on the degree of variability which compares quite well with the results of direct microscopic measurement, as I have shown (Jour. Path. and Bact., 1931, xxxiv., 771). May I add that a well-known optical firm will shortly put on the market an apparatus embodying my ideas, which will place all the advantages of this more complete diffraction-method at the disposal of every practitioner? It will give mean diameter and degree and quality of anisocytosis in a couple of minutes.—I am, Sir, yours faithfully,

ADRIANUS PIJPER, M.D.

Pretoria, Sept. 20th, 1933.

[1] Brit. Med. Jour., 1929, i., 635.

OBITUARY

WILLIAM HOPE FOWLER, M.B., Ch.B. Edin.

THE death occurred on Wednesday, Oct. 4th, at his Edinburgh residence, of Dr. William Fowler, consulting radiologist to the Royal Infirmary, Edinburgh, at the premature age of 57. The sad event adds one more to the list of radiologists who have suffered severely by the practice of their specialty, for he had at different times lost two fingers, and last year had to have his right arm amputated.

William Hope Fowler, an Edinburgh man, was born in 1876 the son of Robert Fowler, an accountant. He was educated at Daniel Stewart's College and Edinburgh University, and he graduated M.B., Ch.B. in 1897, later taking the diploma of F.R.C.S. Edin. He was a distinguished student, holding several valuable prizes, among others the Heriot Research Fellowship and a Thomson Bursary. On qualification he filled the house appointments at the Royal Infirmary and later did post-graduate work, in the directions of which he afterwards made a life-study, in Berlin, Vienna, and Paris. In 1901 he was appointed assistant medical electrician to the infirmary, and ten years later became full radiologist to the institution, a post which he resigned in 1926, when he was appointed to consulting rank. While his association with the Royal Infirmary may be said to have constituted his main professional work, he was radiologist for a period to the Royal (Dick) Veterinary Hospital, to the Bangour Mental Hospital, and physician to the Newtown Dispensary. He lectured also on radiology at the Surgeon's Hall, Edinburgh, and was an examiner on the subject for the Edinburgh double qualification. During the war Fowler did valuable service as consulting radiologist to the Admiralty and as a member of the War Office X Ray Commission; he held these posts from the beginning to the end of the struggle, but it was not until the last year of his life that he received public recognition by the conferring upon him of the C.V.O.

DR. W. H. FOWLER

[*By courtesy of "The Scotsman"*]

For a man with a reputation so widely grounded he wrote little. He was first and foremost practical, and he embodied his ideas in his lectures. In the one or two articles which he published he showed a full grasp of his subjects with a particular attraction for the strictly scientific side of X ray work. With Dr. W. T. Ritchie he did some excellent work in applying the X rays to the heart and aorta. But it is to be regretted that he left so few records, for his radiological equipment was quite exceptional, as was fully recognised at radiological conferences.

An Edinburgh correspondent writes: "To understand the influence which Fowler had with the medical profession in Scotland, it was necessary only to hear the appreciations of his work by his colleagues. He was full of invention and endless adaptation of X ray to various classes of work. Whenever the question of an X ray plate was raised, all answer was 'go to Hope Fowler.' It is rare that a specialist carries with him so completely the sympathy and understanding of a whole profession. Probably his bright and vivid manner had something to do with it; but one had only to speak to him to see that here was a mind of exceptional freshness, clearness of purpose, and broad culture."

In private life Fowler was extremely popular with colleagues and friends, and his death leaves a large gap among them. He married Julia, daughter of Dr. James Cant of Ore Bridge, and was a recent widower, while there were no children.

DR. CHARLES MAYO

THE death took place on Thursday, Sept. 28th, at his house in Great Yarmouth, of the veteran, Dr. Alfred Charles Mayo who, until his failure in

health some few years ago, occupied in the town a prominent place both as practitioner and public servant.

Alfred Charles Mayo was born in 1845 and received his medical education at King's College Hospital, qualifying in 1870 with what was at that date the usual combination of diplomas, M.R.C.S. Eng., L.S.A. As quite a young man he joined a well-established firm of practitioners in Great Yarmouth and carried on a large practice, later succeeding the senior member of his firm to a seat on the town council, and in other municipal capacities. Mayo served for over 40 years on the council, from which he did not retire as an alderman until he was over 80 years of age. He was a magistrate of the borough for nearly 40 years, and until recently attended regularly on the bench, where he displayed the qualities rightly esteemed by the public of fairness and generosity. He was a director both of the Yarmouth Water Co. and of the Yarmouth Gas Co., and in 1904 was mayor of the town. Dr. Mayo's death was the occasion of well-deserved encomiums from the chairman of the bench of magistrates and from others who have been associated with him in professional and municipal affairs. The practice remains in the hands of his son, Dr. Herbert Reginald Mayo.

Dr. LILIAN ENID WATNEY, whose death on Oct. 4th is reported from Hankow, had been a medical missionary of the China Inland Mission since 1911. Her father was the late Herbert Watney, M.D., of Pangbourne, and her brother, Dr. Martyn Watney, like herself, became a medical missionary. Born at Pangbourne in 1883, she was educated at home at Bedford College and at University College, London, receiving her medical education at the School of Medicine for Women. She graduated as M.B. Lond. in 1910, and after holding several hospital appointments left for China in the following year. She did valuable medical work at several mission stations, but was eventually forced to return to England owing to ill-health. Two years ago, however, she was sufficiently recovered to return to China.

Dr. ALFRED JAMES BARNES, who died in London on Oct. 3rd, was qualified both in medicine and pharmacy. He was educated at the Catholic University School of Medicine and the Adelaide Hospital in Dublin, and at the Edinburgh Royal Infirmary. He took the L.A.H. Dub. in 1900, but five years previously had passed his pharmaceutical examinations. Until 1928 he practised in Dublin as both doctor and pharmacist, but in that year he settled in London, where he became medical representative of Messrs. Menley and James. He leaves a widow with a son and daughter.

MEDICAL NEWS

University of Liverpool

At recent examinations Dr. Mary Coutts and Dr. G. A. C. Lynch were approved for the diploma in public health.

Royal Academy of Medicine in Ireland

Mr. Richard Atkinson Stoney has been elected president of the Royal Academy of Medicine in Ireland in succession to Prof. T. G. Moorhead. Mr. Stoney is senior visiting surgeon to the Royal City of Dublin Hospital, and the immediate past president of the Royal College of Surgeons in Ireland.

Hunterian Society

The first dinner meeting of the new session will be held by this society at Simpson's Restaurant, Bird-in-Hand-court, 76, Cheapside, London, on Monday, Oct. 16th, at 7.15 P.M. About 8.30 P.M. Mr. W. E. Tanner will deliver his presidential address on the influence of medicine on surgery.

Chelsea Clinical Society

The annual dinner of this society will take place at the Hotel Rembrandt, Thurloe-place, London, S.W., on Wednesday, Oct. 18th, at 8 P.M. The secretary for the dinner may be addressed at 8, Lower Sloane-street, London, S.W.1.

German Research Workers in Manchester

A fund has been raised for the establishment in the University of Manchester of a number of research fellowships to be held by Germans who have been dismissed from their posts. The fellowships, to which appointments are made for not more than two years, will throw no financial burden on the University and will in no way narrow the field open to British graduates. Though the holders will probably help in the teaching of advanced students they will be under no obligation to do so. Among the Fellows so far appointed are Dr. Walther Deutsch, of Düsseldorf (department of physiology), and Prof. David Katz, of Rostock (department of psychology).—It is also announced that the Manchester Victoria Memorial Jewish Hospital has appointed to its honorary consulting staff the three brothers Zondek, who have until lately been attached to the University of Berlin; Dr. Hermann Zondek (late professor of internal medicine) is to be consulting physician; Dr. Bernhard Zondek (late professor of gynæcology), consulting gynæcologist; and Dr. S. G. Zondek (late professor of pharmacology), consulting bacteriologist.

Biochemical Society

This society is holding a meeting at Messrs. Boots Ltd research laboratories, Nottingham, to-day, Saturday, Oct. 14th, when various communications will be made.

Industrial Welfare Society

This society has arranged a conference at the Hotel Victoria on Tuesday, Oct. 17th, at 4 P.M., when Dr. W. J. O'Donovan, M.P., will read a paper on dermatitis, and a discussion will follow.

Naval Medical Compassionate Fund

At a quarterly meeting of the directors of this fund, held on Oct. 6th, with Surgeon Vice-Admiral Sir Reginald Bond, medical director-general of the Navy, in the chair, the sum of £177 was distributed among the several applicants.

Glasgow University Club, London

This society will dine at the Trocadero Restaurant, Piccadilly, London, W., on Friday, Nov. 10th, at 7.15 for 7.30 P.M., with Sir Robert Bruce in the chair. The honorary secretaries may be addressed at 62, Harley-house, N.W.1.

Royal Institution

The Friday evening discourses begin on Oct. 27th and continue until Dec. 15th. There are also to be several series of lectures, including one by Prof. G. Elliot Smith, F.R.S., on the nervous system, at 5.15 P.M. on Tuesdays, from Oct. 24th to Nov. 14th. Further particulars may be had from the general secretary at 21, Albemarle-street, London, W.1.

South-West London Medical Society

This society, under the presidency of Dr. George Pollock, holds its first meeting on Oct. 18th, when Dr. L. S. T. Burrell will give an address on spontaneous pneumothorax. There will be a lecture by Dr. Ulysses Williams (will an X ray examination be helpful?) on Nov. 8th; and by Mr. P. H. Mitchiner (when to "wait and see" in acute appendicitis) on Dec. 13th. Other speakers will include Dr. Jacques Forestier, Dr. Gerald Slot, Dr. T. C. Hunt, and Mr. C. P. G. Wakeley. The Bolingbroke lecture will be given on June 13th by Mr. Comyns Berkeley, whose subject will be carcinoma of the cervix uteri. The meetings are held at the Bolingbroke Hospital, Wandsworth Common, at 9 P.M., and the honorary secretaries are Dr. E. G. Housden, 51, Longley-road, S.W.17, and Dr. A. W. Wells.

King's College Hospital Dinner

The annual dinner of the King's College Hospital medical school was held at the Connaught Rooms on Sept. 30th with Mr. Arthur Edmunds in the chair. After welcoming the guests, amongst whom were Dr. Langdon Brown, regius professor of physic at Cambridge, Prof. D. M. Blair and Prof. R. J. S. McDowall from King's College, and Judge Sturges, the chairman proposed the toast of the Medical School and the Hospital. Dr. Alexander Drake, dean of the medical school, in his reply, mentioned that the school was now nearly six times bigger than it was in pre-war days. The new buildings, which were opened this July by Prince George, will furnish the extra accommodation needed and will be a great asset to the school. A record number of old students were at the dinner.

During the afternoon an intensive post-graduate course was held at the hospital and was largely attended. This course has now become an annual feature and will be continued in future years.

Extensions at Droitwich Spa

A party of medical men, of whom the majority were members of the medical advisory committee of the British Health Resorts Association, attended the opening on Oct. 6th at Droitwich, of the St. Andrew's brine baths extension and the Royal clinic. Lord Meston, chairman of the B.H.R.A., performed the function. The party was conducted round the various establishments by the director and assistant director. Their first visit was to the St. Andrew's baths, the principal bathing establishment of the spa, when the new street front necessitated by the extension was admired. These baths fell recently into a state of disrepair owing to the ravages of the corrosive brine vapour, and have now been overhauled and remodelled at considerable expense, a new X ray department and reception lounges having been provided. The Royal clinic, which was next inspected, is a residential hostel intended for patients of strictly limited means, and here they can be housed and treated for so low a sum as 3 to 4 guineas a week. A small laboratory is attached to the clinic where vaccines are prepared and necessary investigations made. On visiting the great brine pumping stations, a short address was given to the assembly on the origin of the brine, after which members of the party sampled the various methods whereby brine therapy can be applied. At the luncheon which followed later in the new winter garden, speeches were made by Mr. William Ivey, chairman of the Hesketh Estates, Ltd., which own the spa, and Lord Meston. The latter appealed for more adequate support for the British Health Resorts Association, whose sole ambition, he said, was to aid in the development of the idea of the British health resorts for the British people—"it endeavours to help to foster development, both from the medical and lay side, with this end in view." The Mayor of Droitwich referred to Lord Meston's record of service in India, and hoped that his present work on behalf of the British health resorts would not go unsupported. The health of the guests was proposed by Mr. W. Nash, the chairman of the Droitwich Development Corporation, and replied to by Dr. R. A. Young, who pointed out the advantages which would follow a wise policy of development of the British Health Resorts Association. Dr. Young referred briefly, in conclusion, to the work of the secretary of the B.H.R.A., Dr. Alfred Cox. Mr. Elliston, M.P., editor of the *Medical Officer*, also replied.

Royal Dental Hospital School of Dental Surgery

The prizes awarded during the winter and summer sessions 1932–33 were presented at a conversazione on Oct. 6th by Sir Holburt Waring, president of the Royal College of Surgeons of England. For many years, he said, owing to a curious succession of circumstances, he had been very closely connected with the dental profession. That profession at the present time was the most closely guarded of any against unqualified practice, which was a great advantage to it, and he wished the medical profession were more like it in this respect. He outlined the statutory position of the dentist in relation to the Dental Board and the General Medical Council, and said that the Royal College of Surgeons had licensed 4594 of the 12,319 dentists practising in England and Wales at the present time. Other licensing bodies included many universities, the Royal Colleges of Surgeons of Edinburgh and Ireland, and the Royal Faculty of Physicians and Surgeons of Glasgow. The University of London was one of the latest to establish a degree of bachelor of dentistry. Scotland, curiously enough, did not give a single degree in dentistry; Edinburgh and Glasgow refused all dealings with dentists, but St. Andrews granted a licence, talked of establishing a degree, and already had an interesting diploma of dentistry relating to public health. Dentistry, continued Sir Holburt, was an important part of the practice of medicine, and could not be separated from it either in education or in practice. Medicine and dentistry should be two parts of the faculty of medicine of a university, and the two schools should be very closely connected. Nevertheless the courses in medicine, surgery, and pathology should be given separately for medical and dental students. Since dentistry was a learned profession, a higher degree ought to be obtainable by its practitioners, and he personally felt that a college with over 4000 licentiates ought to give the good ones among them a chance to obtain something more than a licence to practise. A dental hospital ought to be the dental department of the general hospital which was the hospital of the faculty of medicine, and the dental staff ought to have a certain number of beds. Finally, Sir Holburt stressed the importance of better coöperation between doctor and dentist in practice.

Hackney Medical Society

At the first meeting of the session Dr. E. A. Gregg, chairman of the central committee of management of the London Public Medical Service, will give an address on the service. Sir Frederick Hobday, on Nov. 22nd, will lecture on some diseases analogous in animals and man, and their comparative aspect; and on Dec. 13th Mr. R. Coyte will speak on the enlarged prostate. A visit to Hackney Hospital will be paid on Jan. 10th, 1934, and later in the year there will be addresses by Dr. C. C. Worster-Drought, Dr. Bruce Williamson, and Dr. Robert Klaber. The chairman for the session is Dr. C. E. Evans and the honorary secretary Dr. Bernard Homa, 20, Dalston-lane, London, E.8.

International Union against Tuberculosis

At the annual meeting of the council of this union, held in Paris in July, it was decided that next conference should be held in Warsaw from Sept. 4th to 6th, 1934. The chief subjects of discussion will be biological variations of the tubercle virus; medical and surgical forms of tuberculosis of the bones and joints, and their treatment; and the utilisation of dispensaries for the treatment of tuberculous patients. Particulars may be had from the secretary of the National Association for the Prevention of Tuberculosis, Tavistock House North, Tavistock-square, London W.C. 1.

Ladies' Medical Golfing Society

The autumn meeting was held at Northwood Golf Club on Oct. 4th. The results were as follows: 1st Division. Scratch prize: Mrs. Pedler, 88. Handicap prizes: Mrs. Gordon Holmes, 96—15=81; Mrs. Lewis-Smith, 93—11=82; Mrs. Russell-Smith, 88—6=82. 2nd Division. Scratch prize: Lady Goadby, 98. Handicap prizes: Mrs. Sneyd, 105—33=72; Mrs. Maxwell-Chance, 107—35=72; Mrs. Gardiner Hill, 104—29=75. Bogey Greensomes: Mrs. Collis-Browne and Mrs. Lewis-Smith, 3 up; Mrs. Redler and Miss S. Dudgeon, 1 down. The "Cecil Leitch" Challenge Cup for best net return: Mrs. Sneyd, 105—33=72.

Mayo County Hospital

Dr. Ward, Parliamentary Secretary to the Minister for Local Government and Public Health in the Irish Free State, recently laid the foundation-stone of the new Mayo County Hospital at Castlebar, which will cost £65,000, and contain 124 beds. It will occupy the site of the old county gaol in which Dr. Ward was three times imprisoned. The foundation-stone of Mayo limestone will be the only stone in the building, which will be entirely of concrete.

PUBLIC HEALTH SERVICES

Food-poisoning in London

TEN cases of food-poisoning, of which two have proved fatal, occurred at the end of last week; eight in St. Pancras and two in Holborn. The fatal cases were those of two boys, one aged 11 and one aged 12. One of these ate some pease-pudding, bought at a shop in St. Pancras, at 8 P.M. on Oct. 7th. He went to bed soon afterwards, having given some of the pudding to a friend, and woke at 3 A.M. with vomiting and diarrhœa and passed blood-stained motions. The doctor called in sent him to Highgate Hospital, where he died at 7 P.M. on Oct. 8th. The other boy died at 9 P.M. A third boy was taken to University College Hospital with the same symptoms, also pronounced tachycardia, and is now recovering. The symptoms of the other cases were similar—vomiting, diarrhœa, passage of blood and mucus from bowel, abdominal pain, rapid pulse, and cyanosed extremities.

The pease-pudding was made of dried split-peas, boiled in water with salt and sodium bicarbonate in an enamelled saucepan and put to cool in an earthenware basin. Investigations are being made to exclude the possibility of chemical poisoning. We understand that a bacillus of the Flexner group has been isolated from the stools of patients at University College Hospital and at Highgate Hospital.

INFECTIOUS DISEASE

IN ENGLAND AND WALES DURING THE WEEK ENDED SATURDAY, SEPT. 30TH, 1933

Notifications.—The following cases of infectious disease were notified during the week: Small-pox, 4 (last week 4); scarlet fever, 3473 (last week 3117); diphtheria, 1155; enteric fever, 82; acute pneumonia (primary or influenzal), 662; puerperal fever, 49; puerperal pyrexia, 116; cerebro-spinal fever, 18; acute poliomyelitis, 30; acute polio-encephalitis, 2; encephalitis lethargica, 13; continued fever, 1; dysentery, 32; and ophthalmia neonatorum, 71. No case of cholera, plague, or typhus fever was notified during the week.

The number of cases in the Infectious Hospitals of the London County Council on Oct. 3rd–4th was as follows: Small-pox, 11 under treatment, 1 under observation; scarlet fever, 2354 (last week 2090); diphtheria, 1663; enteric fever, 23; measles, 362; whooping-cough, 225; puerperal fever, 26 (plus 11 babies); encephalitis lethargica, 255; poliomyelitis, 5; "other diseases," 150. At St. Margaret's Hospital there were 19 babies (plus 10 mothers) with ophthalmia neonatorum.

Deaths.—In 118 great towns, including London, there were no deaths from small-pox, 4 (0) from enteric fever, 2 (1) from measles, 12 (3) from scarlet fever, 14 (3) from whooping-cough, 32 (8) from diphtheria, 94 (23) from diarrhœa and enteritis under two years, and 19 (0) from influenza. The figures in parentheses are those for London itself.

Of the deaths from diarrhœa and enteritis in young children 7 were in Liverpool, 5 in Hull, and 4 each in Middlesbrough, Birmingham, and Wolverhampton. Five fatal cases of diphtheria were recorded in Hull, and there were 4 deaths from influenza in Birmingham.

The number of stillbirths notified during the week was 260 (corresponding to a rate of 44 per 1000 total births), including 49 in London.

BIRMINGHAM MATERNITY HOSPITAL.—This institution has been completed by the addition of a new hostel for nurses, which was recently opened by Mrs. Neville Chamberlain.

Medical Diary

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY, Oct. 17th.—5.30 P.M., GENERAL MEETING OF FELLOWS. 8 P.M., PATHOLOGY. F. M. Burnet: The Use of the Developing Egg in Virus Studies. I. A. Galloway: The Differentiation of the Virus of Vesicular Stomatitis from the Virus of Foot-and-Mouth Disease. D. H. Patey: Tuberculous Disease of the Parotid Gland. J. A. Murray: Improvements in the Methods for Staining Frozen Sections. Demonstration: A. J. B. Goldsmith: An Unusual Case of Splenomegaly.

THURSDAY.—5 P.M., DERMATOLOGY. (Cases at 4 P.M.) Dr. F. Parkes Weber: 1. Sequel of a Case of Polydermatomyositis. Dr. A. Burrows (for Dr. O'Donovan): 2. Leprosy. Dr. G. B. Dowling: 3. Prurigo Nodularis. Dr. H. W. Allen (for Dr. Dowling): 4. ? Eruptive Hidradenoma. Other cases will be shown. 8.30 P.M., NEUROLOGY. Dr. S. A. Kinnier Wilson: Megalencephaly. (Presidential address.)

FRIDAY.—5.30 P.M., PHYSICAL MEDICINE. Dr. M. B. Ray: The Rheumatic Hand. (Presidential address.) 8.15 P.M. OBSTETRICS AND GYNÆCOLOGY. Dr. Reginald Light, wood and Dr. J. C. Hawksley: Icterus Gravis Neonatorum and Allied Conditions. Discussion on Sympathectomy for Dysmenorrhœa, to be opened by Mr. A. A. Davis, Mr. Malcolm Donaldson, and Mr. Sidney Forsdike. 7 P.M., RADIOLOGY. Dr. R. S. Paterson: Some Problems of Modern X Ray Work. (Presidential address.)

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, Manson House, Portland-place, W.

THURSDAY, Oct. 19th.—8.15 P.M., Major-General Sir Leonard Rogers: Methods and Results of Forecasting Cholera, Small-pox, and Plague in India. (Presidential address, illustrated by lantern slides.) Demonstration at 7.45 P.M.

HUNTERIAN SOCIETY.

MONDAY, Oct. 16th.—7.15 P.M. (at Simpson's Restaurant, Bird-in-Hand-court, 76, Cheapside), Mr. W. E. Tanner: The influence of Medicine on Surgery. (Presidential address.)

SOCIETY OF MEDICAL OFFICERS OF HEALTH, 1, Upper Montague-street, Russell-square, W.C.

FRIDAY, Oct. 20th.—5 P.M., Dr. Charles Porter: Presidents and Prophesies. (Presidential address.)

BRITISH INSTITUTE OF RADIOLOGY, 32, Welbeck-street, W.

THURSDAY, Oct. 19th.—8 P.M., Business Meeting. Dr. J. V. Sparks and Dr. F. G. Wood: Radiology in the Diagnosis of Heart Disease. (Discussion to be opened by Dr. John Parkinson.)

FRIDAY.—11 A.M., Visit to the Hospital for Consumption, Brompton. 5 P.M., Dr. J. F. Brailsford: Radiographic Diagnosis of Spondylolisthesis.

NORTH-WEST LONDON MEDICAL SOCIETY.

TUESDAY, Oct. 17th.—9 P.M. (at the Regent Rooms, Regent Cinema, Finchley-road, Golder's Green, N.W.), Sir Harold Gillies: Plastic Surgery—General scope and some modern applications.

HACKNEY MEDICAL SOCIETY, Metropolitan Hospital, Kingsland-road, E.

WEDNESDAY, Oct. 18th.—9.30 P.M., Dr. E. A. Gregg: The London Public Medical Service.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.

WEDNESDAY, Oct. 18th.—4 P.M., Sir Thomas Lewis Harveian Oration.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.

MONDAY, Oct. 16th, to SATURDAY, Oct. 21st.—ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C. Afternoon Course in Dermatology. Clinical instruction daily and lectures twice a week.—LONDON CLINIC AND INSTITUTE OF PHYSICAL MEDICINE, Ranelagh-road, S.W. Evening Course of lecture-demonstrations on Physical Medicine.—NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland-street, W. Post-graduate Course in Cardiology, for advanced students, occupying the whole of each day.—ROYAL ALBERT DOCK HOSPITAL, E. Week-end Course in Clinical Surgery, occupying the whole of Sat., Oct. 21st and Sun., Oct. 22nd.—PANEL OF TEACHERS: Individual clinics are available daily by special arrangement with the Fellowship of Medicine. Courses, &c. are open only to Members and Associates of the Fellowship.

NATIONAL HOSPITAL, QUEEN-SQUARE, W.C.

MONDAY, Oct. 16th.—3.30 P.M., Dr. Symonds: Fits and Epilepsy.
TUESDAY.—Dr. Denny Brown: The Physiology of Muscle.
WEDNESDAY.—Dr. Collier: Clinical Demonstration.
THURSDAY.—Dr. Riddoch: The Cranial Nerves and special senses.
FRIDAY.—Dr. Bernard Hart: The Psychoneurosis (2).
Out-patient clinics each day at 2 P.M.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C.
MONDAY, Oct. 16th, to SATURDAY, Oct. 21st.—Intensive Post-graduate Course daily. (Third Week.)

ST. PAUL'S HOSPITAL, Endell-street, W.C.
WEDNESDAY, Oct. 18th.—4.30 P.M., Mr. H. P. Winsbury White: Diagnosis of Urinary Tract Diseases in General Practice.

CHARING CROSS HOSPITAL MEDICAL SCHOOL, Chandos-street, W.C.
SUNDAY, Oct. 15th.—10.30 A.M., Mr. J. Bright Banister: Hæmorrhage in Pregnancy. 11.45 A.M., Dr. E. C. Warner: Some Points in the Ætiology and Treatment of Rheumatic Diseases.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL, Denmark-hill, S.E.
THURSDAY, Oct. 19th.—4.30 P.M., Dr. R. P. Williams: Water-supply in Relation to Disease. 9 P.M., Sir Charlton Briscoe: Pneumonia.

LONDON SCHOOL OF DERMATOLOGY, ST. JOHN'S HOSPITAL, 49, Leicester-square, W.C.
TUESDAY, Oct. 17th.—5 P.M., Dr. H. T. Barron: Purpura.
WEDNESDAY.—5 P.M., Dr. I. Muende: Pathology Demonstration.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James' Hospital, Ousely-road, Balham, S.W.
WEDNESDAY, Oct. 18th.—8.30 P.M., Capt. I. P. Muller: The Muller Exercises.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL Post-graduate Lectures.
WEDNESDAY, Oct. 18th.—3 P.M., Lord Horder: Eugenics and the Doctor.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, 1, Keppel-street, W.C.
WEDNESDAY, Oct. 18th.—5 P.M., Prof. Cyril Burt, D.Sc.: The Normal and Subnormal Mind. (First of five Heath Clark lectures.)

INSTITUTE OF HYGIENE, 28, Portland-place, W.
WEDNESDAY, Oct. 18th.—3.30 P.M., Dr. J. F. Halls Dally: Low Blood Pressure, its Cause and Effects.

ROYAL INSTITUTE OF PUBLIC HEALTH, 23, Queen-square, W.C.
WEDNESDAY, Oct. 18th.—4 P.M., Sir Ernest Graham-Little: Medical Education and the Public Health.

ANCOATS HOSPITAL, Manchester.
THURSDAY, Oct. 19th.—4.15 P.M., Dr. N. Kletz: Involuntary Movements.

LEEDS GENERAL INFIRMARY Post-graduate Lectures.
TUESDAY, Oct. 17th.—4 P.M., Mr. Braithwaite: Demonstration of Surgical Cases.

MANCHESTER ROYAL INFIRMARY Post-graduate Course.
TUESDAY, Oct. 17th.—4.15 P.M., Mr. John Morley: Diagnosis and Treatment of Lumps in the Breast.
FRIDAY.—4.15 P.M., Dr. A. Ramsbottom: Demonstration of Medical Cases.

Appointments

BENDIX, F. E., L.R.C.P. Lond., M.R.C.S., has been appointed Deputy Medical Officer of Health, East Ham.

CUBIE, ALEXANDER, M.B., Ch.B. Glasg., Assistant to the Medical Superintendent at the Liverpool Sanatorium, Delamere Forest, Frodsham.

EVANS, JAMESON, L. P., M.B., B.Chir. Camb., Assistant Surgeon to the Birmingham and Midland Eye Hospital.

VINCENT, E. W., M.B., Ch.B. Leeds, Medical Officer of Health, Filey.

Harrogate General Hospital: GREENWOOD, W. O., M.D. Leeds, F.R.S. Edin., Obstetrician and Gynæcologist; KAY, GLADYS, M.D., B.S., B.Sc. Lond., and CAMPBELL, E. GORDON, M.B., B.Ch., B.A.O. Dub., D.P.H., Assistant Gynæcologists and Obstetricians.

Manchester Victoria Memorial Jewish Hospital: STOPFORD, J. S. B., M.D. Manch., Honorary Consulting Anatomist; JEFFERSON, G., M.B., B.S. Lond., F.R.C.S. Eng., Honorary Consulting Neurologist; and OLLERENSHAW, R., M.D. Manch., F.R.C.S. Eng., Honorary Consulting Orthopædist.

Queen Charlotte's Maternity Hospital, Marylebone-road, N.W.: YOUNG, J., M.B., Ch.B. Glasg., Senior Resident Medical Officer; BUDDEE, F. W., M.B., Ch.M. Syd., Assistant Resident Medical Officer; WILSON, E. M. P., B.Chir. Camb., District Resident Medical Officer.

London County Council Hospital Staff.—The following appointment is announced: HOLMES, JOHN McD., A.M.O.H., St. Stephen's.

Vacancies

For further information refer to the advertisement columns

Birmingham, Dudley-road Hospital.—Jun. M.O.'s. Each at rate of £200.
Birmingham General Hospital.—Med. Reg. and Res. M.O. £155.
Bradford Royal Eye and Ear Hospital.—Jun. H.S. £150.
Bradford Royal Infirmary.—H.P. and two H.S.'s. Each at rate of £135.
Burnley, Victoria Hospital.—H.P. At rate of £150.
Cambridge, Addenbrooke's Hospital.—H.P. At rate of £130.
Central London Throat, Nose and Ear Hospital, Gray's Inn-road, W.C.—Hon. Assts. in Out-patient Dept.
Chichester, Royal West Sussex Hospital.—Jun. H.S. At rate of £125.
Constance-road Institution, East Dulwich, S.E.—Asst. M.O. £250.
Devon County Council.—Asst. County M.O. £500.
Dewsbury County Borough.—M.O.H. and School M.O. £900.
Dorchester, Dorset County Hospital.—H.S. At rate of £160.
Eastbourne, Princess Alice Memorial Hospital.—Res. H.S. At rate of £150.
Edenbridge District Hospital, Kent.—Hon. Surgeon to Ear, Nose and Throat Dept.
Hampstead General and North-West London Hospital, Haverstock-hill, N.W.—H.S. At rate of £100.
Hospital for Epilepsy and Paralysis, Maida Vale, W.—Two Hon. Asst. Surgeons. Also Res. M.O. and H.P. At rate of £150 and £100 respectively.
Hospital for Sick Children, Great Ormond-street, W.C.—H.S. At rate of £100.
Ilford, King George Hospital.—H.P. and H.S. Each at rate of £100.
Kidderminster and District General Hospital.—H.S. £150.
Liverpool Royal Children's Hospital.—Res. Surg. O. for Heswall Branch. At rate of £120.
London Hospital, E.—Hon. Asst. Physician to Skin Dept.
London Jewish Hospital, Stepney-green, E.—Res. M.O. and H.P. Also Cas. O. Each at rate of £150. Also H.S. At rate of £100.
London Missionary Soc.—Med. Woman for Mbereshi, Northern Rhodesia.
Maidstone, Kent County Ophthalmic and Aural Hospital.—H.S. to Ear, Nose and Throat Dept. At rate of £200.
Manchester, Ancoats Hospital.—Radiological Officer. £300. Also Res. M.O. At rate of £150.
Manchester, Christie Cancer Hospital and Holt Radium Institute, Withington.—Res. M.O. At rate of £150.
Manchester Ear Hospital, Grosvenor-square, All Saints.—Res. H.S. £120.
Manchester Hospital for Consumption and Diseases of the Throat and Chest.—Asst. M.O. for Crossley Sanatorium. £200.
Midhurst, Sussex, King Edward VII. Sanatorium.—Med. Supt. £1000.
Oldham Royal Infirmary.—Cas. O. and H.P. At rate of £175.
Oswestry, Robert Jones and Agnes Hunt Orthopædic Hospital—H.S. At rate of £200.
Queen Mary's Hospital for the East End, E.—Pathologist. £750.
Reading, Royal Berkshire Hospital.—Hon. Ophth. Surgeon.
Redhill, Surrey, Royal Earlswood Institution.—Jun. Asst. M.O. At rate of £250.
Rochester, St. Bartholomew's Hospital.—H.P. At rate of £175.
Rotherham, Alma-road Hospital.—Asst. Res. M.O. £200.
Royal Dental Hospital of London, 32, Leicester-square, W.C.—Two Part-time House Anæsthetists. Each 10*s.* 6*d.* per session.
Royal London Ophthalmic Hospital, City-road, E.C.—Refraction Asst. to the L.C.C. School Dept. £160.
Royal Waterloo Hospital for Children and Women, Waterloo-road, S.E.—H.P. At rate of £100.
St. George-in-the-East Hospital, Raine-street, Wapping, E.—Asst. M.O. £250.
St. James' Hospital, Ouseley-road, Balham, S.W.—Asst. M.O. £350.
St. Olave's Hospital, Lower-road, Rotherhithe, S.E.—Asst. M.O. £350.
St. Pancras Hospital, Pancras-road, N.W.—Asst. M.O. £250.
St. Thomas's Hospital.—Surgical Reg.
Salford, Infectious Diseases Hospital.—Jun. Asst. Res. M.O. £200.
Samaritan Free Hospital for Women, Marylebone-road, N.W.—H.S. At rate of £100.
Sheffield Royal Hospital.—Clin. Asst. for Ophth. Dept. At rate of £400. Also Sen. Cas. O. £150.
Sheffield University.—Asst. Pathologist and Demonstrator of Pathology. £500.
Sidcup, Kent, Queen Mary's Hospital.—Asst. M.O. £250.
Southend-on-Sea General Hospital.—H.P. £100.
Taunton, Taunton and Somerset Hospital.—Sen. House M.O. At rate of £150. Also H.P. and H.S. Each at rate of £100.
Torquay, Torbay Hospital.—Hon. Phys., Hon. Surg. and Hon. Radiologist.
Victoria Hospital for Children, Tite-street, Chelsea, S.W.—Hon. Physician to Out-patient Dept.
Wakefield, West Riding of Yorkshire County Council Public Health Laboratory.—Asst. Bacteriologist. £500.
Walsall County Borough.—M.O.H. £1000.
West End Hospital for Nervous Diseases, Gloucester-gate, Regent's Park, N.W.—Jun. H.P. At rate of £100.
Western Ophthalmic Hospital, 155, Marylebone-road, N.W.—Sen. and Jun. Res. H.S.'s. At rate of £150 and £100 respectively.
Wolverhampton Royal Hospital.—H.S. Also H.S. to Orthopædic, &c., Dept. Each at rate of £100.

The Chief Inspector of Factories, Home Office, S.W., announces vacancies for Certifying Factory Surgeons at Hornsea, York, East Riding, and at Cross Hill, York, West Riding.

Vacancies for Medical Referees under the Workmen's Compensation Act have been notified for the Athelstone and Coventry (Circuit 23); Bury St. Edmunds, Ipswich, &c. Districts (Circuit 33); Biggleswade, &c. (Circuit 35); and Abergavenny, &c. (Circuit 24). Applications should be sent to the Private Secretary, Home Office, Whitehall, London, S.W.

NOTES, COMMENTS, AND ABSTRACTS

A FAIR INDICTMENT

OUR view of the treatment meted out to animals by man is usually obscured by prejudice of one kind or another. The Arab thinks it brutal to put an exhausted camel to death rather than to leave it to perish in the desert; the foxhunter returning from a kill may lose his temper with a tramp for kicking a dog; the tender-hearted share in imagination every pang of an ill-used animal, and irritate the sturdy by painting these sufferings in sentimental colours. It is difficult indeed to bring a balanced judgment to bear on the question, and readers of Volume II. of the Animal Year Book will be grateful to the University of London Animal Welfare Society for performing the task for them. The title of the book ("Animals, Consider Your Verdict!") and Fougasse's illustration of a judicial lion on the cover strike a reassuring note at the outset, reminding us that it is not constructive to let our feelings be harrowed unduly, and that reforms can be carried out in a cheerful spirit. There is much grim matter in the pages which follow, but it is presented without exhortations to pity, and is the more telling in consequence.

A chapter on the traffic in trapped furs, by J. R. Harman, is enlightening. It is unlikely that many of those who wear furs have any idea of trapping methods. Steel traps are commonly used in which the animal is held captive by a limb until the trapper makes his next visit to the district, often after a period of several days or a week. It appears to be necessary, from the trapper's point of view, that the animal should be alive when found. In August, 1931, A. C. Rowell wrote in *Fur—Fish—Game*, an American periodical: "Some of the animals will be in the traps a week, but in cool weather most of them will live through it and there will be little loss from spoiled skins."

Sometimes an animal escapes by twisting or "wringing off" the captive limb, and sometimes by carrying the trap away with him. When this occurs sepsis will usually end life. To prevent these escapes and to preserve the animal from attacks by other beasts, the trap is sometimes attached to a balance-pole, which springs upright as soon as the animal is caught; he remains hanging from the trap by the injured limb until the next visit of the trapper. A different form of trap—the pince d'Elaski—consists of four barbed hooks, which spring apart when the bait is swallowed and catch inside the throat.

Capt. C. W. Hume suggests that the only remedy for the suffering caused by trapping wild animals lies in a change of women's fashions—"similar," he says optimistically, "to that which has come about in regard to feathers." This hope seems to us to be founded upon two fallacies: first, change in fashion in regard to feathers is a thing which fluctuates, and Capt. Hume may find in a year or two that he has congratulated himself prematurely; secondly, while feathers are purely ornamental, furs are useful. If he is going to wait for humane considerations to outweigh considerations of utility in the public mind, trapped animals will continue to suffer for many years to come. Numerous humane traps have been invented, he tells us, but they are not used. While awaiting a change of heart we might do worse than seek to enforce the use of humane traps. Another line of approach is to popularise (relatively) the furs of animals, such as silver foxes, which can be bred on farms and killed humanely.

A long chapter on animals abroad, written by various contributors of official or scientific standing, gives some idea of the scope of the problem, which does not begin with the mentality of savage races or end with bull-fighting, but covers such issues as the exportation of horses and cattle, the overloading of draught animals, and coursing of hares and rabbits in enclosed spaces. Mr. F. E. Hodgson contributes a lucid chapter on the legal aspects of cruelty to animals in this country, in which we learn that cruelty has been defined as "unnecessary abuse of an animal," and that "necessity," in this sense, does not mean "profit" to some particular person. Mr. G. C. Grindley discusses the sense of pain in animals, and suggests that the animal's behaviour affords the best criterion for judging pain.

A valuable chapter on euthanasia is contributed by Capt. Hume, in which he gives details of appropriate methods of killing various animals. It is noteworthy that he describes the use of motor-car exhaust gas in lethal chambers—an agent which is seriously opposed by Mr. Wakefield Rainey, M.R.C.V.S., in his pamphlet "Euthanasia of Dogs and Cats" (London: Baillière, Tindall and Cox, 1*s*.). The composition of exhaust gas, Mr. Rainey claims, varies considerably with the conditions of combustion of the petrol. Many animals suffer greatly in the presence of exhaust gas, being distressed by both carbon dioxide and petrol vapour, and sometimes becoming frantic with fear; unconsciousness in the exhaust gas chamber does not usually occur until the carbon monoxide in the atmosphere has reached a lethal percentage, and this condition is usually not achieved until about half the atmospheric air in the chamber is displaced by an unbreathable mixture of gases. This means that the dog dies partly from asphyxiation. He condemns the use of exhaust gas on the grounds that it is not fool-proof and cannot, for practical purposes, be made fool-proof. Shooting, he thinks, provides the most humane death for the dog; prussic acid injected into the thoracic cavity is rapid; chloroform should not be used in the absence of the services of an expert anæsthetist, but the administration of coal gas in the lethal chamber does not cause distress; electrocution promises well for the future. His careful observations are valuable, for humanitarians are sometimes apt to judge what the animal would like by what they think they would like themselves, and so it comes about, as Mr. Rainey puts it, that "the dog has to be protected, not only from his enemies but from his friends."

All reform movements, as Capt. Hume points out, have to contend with the apathy of the public, due to narrowness of interests and sympathies. "Although," he says, "most Englishmen are made angry by wrong done to Englishmen, dogs, or horses, nevertheless foreigners, pigs, rats, and rabbits lie beyond the horizon of all but the mentally alert." Such an estimate of our intelligence ought to put us on our mettle, and the Animal Year Book should prove a useful guide to those who wish to extend their sphere of interest or to sympathise with more knowledge.

THE HOSPITALS YEAR BOOK, 1933

THE third issue of this Year Book contains a mass of valuable material, although its timely appearance has reduced the number of provincial hospitals included in the statistical range by nine. There are however five more London hospitals represented this year. In all 63 hospitals (37 in England and Wales, 14 in Scotland, and 12 in Ireland) failed to make returns. A general survey of the finances and work of the voluntary hospitals in Great Britain and Ireland for the year 1931 (which covers over 90 per cent. of the hospitals) shows that they received about 15 million pounds, spent rather more than 14 million pounds and had a surplus of £607,000, which is only about £100,000 less than for 1930. But in his review Sir Charles Harris points out that satisfaction at so relatively small a falling-off, in a year of such rapid shrinkage of the national prosperity, is considerably dashed by the fact that of the £607,000 no less than £554,000 pertains to Ireland. He considers that the effect of the sweepstakes on the Irish accounts is so large as entirely to mask the true

position in Great Britain. Indeed the maintenance surplus was in the main applied to making good capital deficiency, and when this was done the net surplus for all the voluntary hospitals in Great Britain and Ireland was only £53,000. It appears that out of a total of £230,000 spent by the hospitals as a result of motor accidents, only £34,000 have been recovered. It is therefore appropriate among the papers on subjects of current interest connected with hospitals that there should be one on the hospital section of the Road Traffic Act and another on the position of the hospitals with regard to sweepstakes. Reports of the annual conference of the British Hospitals Association at Liverpool in June, 1932, and of the meeting arranged by the Association at the Public Health Congress in November last, at which the findings of THE LANCET Commission on Nursing were discussed, are also included. The conclusions and recommendations of the committee appointed to inquire into the out-patient methods at London voluntary hospitals are reproduced. Part I. of the book concludes with a complete list of the 64 memoranda on matters of administrative interest to hospitals which have been prepared by the Central Bureau of Hospital Information. Of the 16 memoranda reprinted in full are those dealing with the insurance of hospitals against certain risks and with the financial arrangements between local authorities and voluntary hospitals for the treatment of tonsils and adenoids. In most cases where the surgeon and anæsthetist receive nothing from the local authority they appear to receive from the hospital some part of the grant made to it.

Part II. of the Year Book contains statistical tables. Part III. begins with the directory of voluntary hospitals which is included every other year. Under the heading of training schools for nurses are fully set out the conditions under which hospitals are approved as training schools, and schemes under which nurses may be trained for admission to the State Register; this useful section has not been included in former years. A prudent and useful addition to this year's issue is the scheme for X ray and radium protection, revised by the International X Ray and Radium Protection Commission and adopted by the International Congress of Radiology in 1931. The memorandum of the Ministry of Health on precautions against shock from electro-medical apparatus is also reproduced.

The Year Book is edited by Mr. R. H. P. Orde and Mr. A. E. Ceadel for the Joint Red Cross Council and the British Hospitals Association; it is published by the Central Bureau of Hospital Information, 12, Grosvenor-crescent, London, S.W.1, price 10*s*.

A SURGEON IN THE WAR OF 1793

THE following account of the brief career of a military surgeon of 1793 is written from family papers by his nephew's grandson, himself a medical man.

On Dec. 22nd, 1793, Nicholas Avent, a Cornishman, received his commission from the Master General as Surgeon to the Ordnance at Toulon. Actually Toulon had been recaptured by the French on the 19th of the month, this being Bonaparte's first success in an important command, but the news had not reached Portsmouth, and he duly embarked there. On the ship putting in at Falmouth he was recalled and returned to Portsmouth by land.

He had evidently joined and sailed in a hurry, perhaps because he thought, as many Englishmen have since thought, that the war would only last a short time; alas, for him the war was indeed a short one. On his return to Portsmouth he drew up a letter to "the Board," claiming his expenses. He writes:—

"being ordered abroad without having received my medicine chest I was advised to purchase such surgical instruments and drugs as were deemed most indispensable, accordingly I provided myself with amputating and trepanning instruments which cost me £10: 10; tourniquette, some lancetts, lint, bark, opium, and emetic tartar to the amount of £4: 4: 6. Being sent on board without a bed I was absolutely necessitated to purchase one which cost me £2."

He also claimed £10 for messing, and "the usual sum allowed those going on foreign service for taking the field." The secretary to the Board replied, allowing his claim for the purchase of instruments and drugs, also granting his travelling expenses for his journey by land from Falmouth to Portsmouth, but disallowing his claim for messing, though no reason is given, and also for his bed, "as bedding has been issued to you from store." The letter goes on: "and with respect to your request for the allowance on taking the field, the Board command me further to acquaint you that the same cannot be complied with, as your orders to go as Surgeon to the Artillery at Toulon was (!) countermanded." It appears as if he stretched a point in the matter of his bed, but in the other matters the official attitude was probably thought very mean; his pay was only six shillings a day.

In April, 1794, he was ordered to Corsica, then being attacked by combined sea and land forces under Nelson and Stuart, afterwards the victor of Maida; it was here Nelson lost his eye. Corsica was subdued and annexed in June, so the surgeon can have seen but little fighting, and the "amputating and trepanning instruments" probably lay unused, but disease, as in so many campaigns, was deadlier than the enemy, and his "bark, opium, and emetic tartar" must have been little enough with which to treat the unfortunate fever cases.

The island was indeed a fever-ridden spot. Nelson himself wrote: "We have 1000 sick out of 2000, and the rest are no better than so many phantoms: myself, I am here a reed among the oaks: I have all the diseases there are, but there is not enough in my frame for them to fasten on." One shudders to think of the task of the doctor of those days under such conditions as existed in that British force; our surgeon himself fell a victim and died in August.

His brother officers held an auction of his effects, the proceeds, with a pathetic list, being sent home to his next-of-kin in Cornwall; this list, signed by two captains and a lieutenant of artillery, shows some quaint spelling, e.g., "1 pr. silver shoe and nea buckles," "1 Cloas bagg," and "1 counter pain." Eight doubloons and three Tuscan crowns fetched £29 11*s*. in cash. "Fishing tackle" seems to imply some relaxation from his arduous duties, but his library was that of a man of learning in various directions, including as it did "Virgil in Latin," "Botany in Latin," "Russian Grammar," "Italian Dictionary," "History of Corsica," with the "Edinbrough Pharmacopœia in Latin" and "Bergmann on Elective Attractions."

Corsica was evacuated after two years of rather feeble and unprofitable occupation by the British; many hundreds of sailors and soldiers were left behind in their graves, including our surgeon of artillery. His relatives erected a monument to his memory in the little church at St. Veep, a tiny hamlet on the Fowey river, his native place.

Births, Marriages, and Deaths

BIRTHS

CROFT.—On Oct. 3rd, at Nelson-gardens, Devonport, the wife of Dr. C. R. Croft, of a son.

DEATHS

BLAIKIE.—On Oct. 5th, at Greenbank-road, Edinburgh, Robert Henry Blaikie, M.D., F.R.C.S.E.

HELME.—On Oct. 3rd, at Ravensworth, Windermere, George Edgar Helme, M.B.E., M.B., C.M. Edin., in his 66th year.

SALISBURY.—On Oct. 8th, at "Richmond," Castlepark-road, Kingstown, Dublin, Charles R. Salisbury, L.R.C.P., M.R.C.S., D.P.H., aged 67.

TOTHILL.—On Oct. 7th, at Fredell, Staines, Frederick Charles Tothill, M.B., D.P.H., aged 71.

WILSON.—On Oct. 2nd, at Eden Mount, Carlisle, George John Wilson, M.A., M.D. (late of Plymouth), aged 77.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.